# The Iron A

# A Review of the Hardware, Iron and Metal Trades.

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#### Clayton's Air Compressor.

In addition to its application for a variety of purposes in manufacture and industry, compressed air has slowly conquered a position in the art of mining. Although of recent growth only, dating as it does in Europe from Colladon's experiments at the Mont Censs in 1860, and in this country from Doane's trials at the Hoosac Tunnel, the use of rock drills in excavating in hard ground, and therefore the utilization of the expansive power of compressed air, occupies a prominent rank in mining operations and in tunneling. The history of air compressors has naturally been intimately aspressors has naturally been intimately associated with the progress of rock drills, and
will in the future be largely dependent upon
the rapidity with which the universal use of
the latter is established, a matter which is
now only a question of time. American
ingenuity has done much to bring the
economical working of air compressors to
its present status—in fact, it may be claimed
that, in conjunction with Continental designers, American machinists have developed
this modern type of machinery to a perfection to which English constructors have
added but little.

We present in the accompanying illustra-

this modern type of machinery to a perfection to which English constructors have added but little.

We present in the accompanying illustration an air compressor embodying some new and important features, by Mr. James Clayton, 14 and 16 Water street, Brooklyn, N. Y. The general plan of the machine has been favorably known in the market for some years, and to this general design Mr. Clayton has closely adhered in making his improvements. The compressor is built both single and double acting, has both the steam cylinder and the air cylinder bolted down to a common bed-plate, the piston rod communicating the power through a yoke or slotted crosshead to the compression piston. The yoke or crosshead runs on a guide, provided with set-screws, so that the weight of the piston rods and the pistons are carried by the guide. In order to secure a steady motion a heavy fly-wheel is used, which is moved by a crank working in a sliding journal box in the crosshead. The journal box of the main crank, as well as that by which the valve-rod is driven, are both made with tapered brasses bearing equally upon both crosshead and crank pin, so that, by tightening a couple of screws, wear or lost motion is taken up equally on both pins and crossheads. This very neat device is one of Mr. Clayton's patents, and is shown very clearly in the small illustration.

An arrangement is provided by which a

tion.

An arrangement is provided by which a small stream of water is run into the water jacketed air cylinder with the air. This water is collected in the air receiver and may be used over again. As will be seen, the compressor has a Steele air governor, fully described and illustrated in The Iron Age of Sept. 19, 1878. It can be set at any desired pressure, which will be maintained with almost perfect uniformity even when the variations of steam pressure are consider. almost perfect uniformity even when the variations of steam pressure are considerable or the variation in the consumption of air great. By regulating the throttle valve it will furnish the necessary power under varying conditions. Thus when, for instance, a number of rock drills suspend work, steam will be throttled and a correspondingly smaller amount of air be compressed. Besides its tendency to economize, this feature will act beneficially upon the rock drills by making less frequent the sudden jarring spurts which act so injuriously upon them and render such heavy and solid construction necessary. onstruction necessary.

#### English Views of American Competition.

A correspondent writing from London

The journalists of England are only just beginning to awaken to the importance of the change which has taken place in regard to the commercial relations of England and Even now they touch the subject America. Even now they touch the subject lightly, and with a tendency to make it a peg whereon to hang general discourses on free trade and the injurious consequences of strikes. The Globe glanced at it yesterday in strikes. The Globe glanced at it yesterday in a note, chiefly intended as a warning to English workmen not to strengthen the hands of foreigners by renewing the disastrous struggles between labor and capital, "which have done so much of late years to paralyze our native industry." So long as the United States sent to Great Britain the surplus of their cereal produce all was well. Not only did such an arrangement offer no ground for did such an arrangement offer no ground for alarm, but this supplementing of local and European supplies was an immense advantage to England. When, in addition to vantage to England. When, in addition to corn, we received bacon, beef, and meats of all kinds in tins, only the English butchers grumbled. The general public welcomed the imports which helped to keep down the price of the necessaries of life. But now that America takes her stand on a level with us in those manufactures in which we have hitherto been supreme, the competition is one which may well excite the gravest one which may well excite the gravest auxiety. Among recent imports from America are boots and shoes, perfumery, jewelry and piece goods. "We have no right to complain of these invasions," says the Globe, "but it certainly behooves us to the Globe, "but it certainly behooves us to endeavor to meet the Americans by producing, if possible, better manufactured articles at equally moderate prices." Easily said, an old stocking secreted in their houses; my friend. How is it to be done? This is others—a daily increasing number—invest the problem of the time. If England cannot in various securities, the most popular integral to the french operatives that they spend less earnings. In France it is otherwise; French operatives that they spend less earnings. In France it is otherwise; French operatives that they spend less earnings. In France it is otherwise; French operatives that they spend less earnings. In France it is otherwise; French operatives that they spend less earnings. In France it is otherwise; French operatives that they spend less earnings. In France it is otherwise; French operatives that they spend less earnings. In France it is otherwise; French operatives that they spend less earnings. In France it is otherwise; French operatives that they spend less earnings. In France it is otherwise; French operatives that they spend less earnings. In France it is otherwise; French operatives that they spend less earnings. In France it is otherwise; French operatives that they spend less earnings. In France it is otherwise; French operatives that they spend less earnings. In France it is otherwise; French operatives that they spend less earnings. In France it is otherwise; French operatives that they spend less earnings. In France it is otherwise; French operatives that they spend less earnings. In France it is otherwise; French operatives that they spend less earnings. In France it is otherwise; French operatives that they spend less earnings. In France it is otherwise; French operatives the spend less earnings. In France it is otherwise; French operation to be a secreted in their accumulations in properties.

solve it, and there is only that one solution, her manufacturing supremacy is clean gone. In the ordinary course of things the day must come when the old country must take a back sact, or at all events admit to the front rank with her the young and busy Republic which has sprung from her loins. There are old-fashioned commercial men who would at this juncture partially revive the old days of protection; but the liberal spirit of the country is allogether opposed to such a retrograde movement. That Eagland has a right to look for mere reciprosity at the hands of the older countries is certain. On the face of it, nothing seems more absurd than the free export to Belgium of raw materials, which come back to us in the shape of manufacturing goods, to undersell us no unhome markets. In regard to America, the day will come when she can afford to indulge day will come when she can afford to indulge day will come when she can afford to indulge on the manufacturing enterprise must be obstered and encouraged. Protection gives the understand that they have used it, often with state that she has not a flared her tariff long ago; but even severe political economists must admit that in the early days of a nation, manufacturing enterprise must be obstered and encouraged. Protection gives the understand that they have used it, often with source during the last 20 years is the best answer to men like Jacob Bright. England

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tT-Tangent.

From our present knowledge it may be stated that phosphorus and (in a less degree) silicon harden steel, make it brittle, and at the same time make it liable to fracture from percussion or blows. Carbon (and in a less degree) manganese render steel hard less degree) manganese render steel hard and brittle, but at the same time, up to a certain extent, they add to the strength but diminish its ductility or percentage of elongation, carbon doing this almost directly in proportion to its percentage, while manganese does not diminish it as rapidly as carbon. Now, a steel rail must be able to resist strain as well as abrasion or wear. It must be hard enough to resist graphing and must be hard enough to resist crushing and not be so brittle as to break under the strains or blows to which it is submitted. Therefore there is a limit beyond which any addition to the amount of these hardeners fore there is a limit beyond which any addition to the amount of these hardeners—phosphorus, silicon, carbon and manganess—should not go. Now it is well known that their hardening effect is by no means equal, and that, therefore, comparisons based upon a simple sum of these hardening constituents is not fair. Dr. Dudley proposes the following relations between them. He assumes 0.01 per cent. of phosphorus as the unit of measurement, and has called this 0.01 per cent. a phosphorus unit. He has likewise assumed that 0.02 per cent. of silicon, 0.03 per cent of carbon and 0.05 per cent. of manganese have each the same influence in rendering a steel hard and brittle as 0.01 per cent. of phosphorus. In any analysis of steel, therefore, the phosphorus units are found by adding together the phosphorus, one-half the silicon, one-third the carbon and one-fifth the manganese, expressed in hundredths per cent. The total of the phosphorus units is given in the seventh column of the table, from which Dr. Dudley draws the confusion that in no case the total of the lost of the carbon was the confusion that in no case the total sum. of the table, from which Dr. Dudley draws the conclusion that in no case the total sum of the phosphorus units should vary far from 30.

His deductions from the chemical analysis

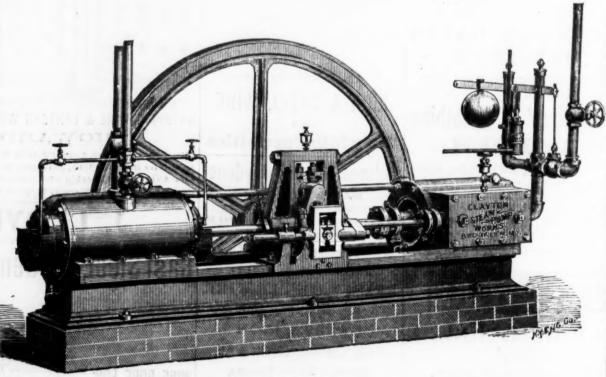
dends from the British funds was 228,696; in 1875 the number of holders of French rentes was 4,380,933. Many artisans in France live in their own freehold houses; others rent small houses, or more commonly, the flat of a larger house. In some districts rent is about the same as in the manufacturism districts in England; in other parts it is much lower. Butchers' meat is a trifle cheaper, but meat is not, as with us, an article of daily consumption. In the South of France, thanks to the climate and soil, fruit is to be had for very little, and wine is abundant and cheap. Clothing is far cheaper, the blue blouse, the invariable working dress, being very useful, suitable and inexpensive. All these are points in methods now others, viz., (1) 4 per cent. of that obtained by Thurston's formula) are: 1. That with our present metallurgical methods high phosphorus in the formula) are: 1. That with our present formula) are: 1. That with our present end of the Bessemer process, what chemical composition shall the Pennsylvania rails is inconsistent with safety. 2. That silicon should be as low as is consistent with the successful working of the Bessemer process. 3. That the best range for carbon is from 0.25 per cent. to 0.35 per cent. 4. In the attempt to answer these questions of the successful working of the Bessemer process. 3. That the best range for manganese, all things cent in too large quantities in steel which has gone through the severe test of the rolling mill) which he has carefully tested in Prof. Thurston's well-known torsional test-ing machine. Approximately the tonnage which has passed over each of the pieces of which has passed over each of the pieces of which has passed over each of the pieces of the rolling machine. Approximately the tonnage which has passed over each of the pieces of the rolling machine. Approximately the tonnage which has passed over each of the pieces of the rolling machine. Approximately the tonnage which has passed over each of the pieces of the rolling machine. Approximately the t His deductions from the chemical analysis and physical tests (tensile strength given is 94 per cent. of that obtained by Thurston's formula) are: 1. That with our present metallurgical methods high phosphorus in rails is inconsistent with safety. 2. That silicon should be as low as is consistent with the successful working of the Bessemer process. 3. That the best range for carbon is from 2.5 per cent. 40.35 per cent.

per square inch, and that the percentage of elongation determined in the same manner should be above 20 per cent.

He prescribes for the chemical composition of rails for the use of the Pennsylvania Railroad the following:

He recommends that the rail manufacturers All other impurities not more than traces. be requested to procure one of Prof. R. Thurston's torsional testing machines, and Inurator's torsional testing machines, and to furnish test pieces from each "blow," ready for testing, to the rail inspector or other person authorized to attend to that work, who shall test the same on this machine, and that the railroad company shall be at liberty to reject all "blows" which do not conform to the physical tests shown to be Dr. Dudley also recommends the limits to chemical composition given in the above, and that the rail manufacturers be informed that if at any time chemical analysis differs from the specification given, it will be regarded as a breach of contract and a proper subject for adjudication.

The Mexican Minister of Public Works has announced that the Mexican governchemical analysis, carbon, phosphorus, manganese and silicon, the tensile strength in thousands of pounds, the elastic limit in thousands of pounds and the percentage of white the city of Mexico at an early day. The thousands of pounds and the percentage of white the city of Mexico at an early day. The characteristics of the continuous control of the state of the sta Mexican and American products,



CLAYTON'S NEW AIR COMPRESSOR, WITH AUTOMATIC PRESSURE GOVERNOR.

cannot blame America for following in her own footsteps. There are certain English staple commodities which even far-seeing and broad-minded politicians say we should protect, even in the present day, and it would not surprise me to see the question of free trade once more on its trial in theory, in fact, and practice before American competition is many years older.

#### Workingmen in France.

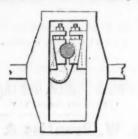
Land and Water, drawing a contrast be-tween the working people of France and England, suggests that the latter would do well to send out a commission to France and inform itself why the people of the latter are more thrifty and have less pauperism than ss pauperism than prevails among the English working classes.

he writer proceeds to say:

The French artisan works longer for his weekly earnings than the Englishman. On the average the difference in the number of hours is 27½ per cent., while the wages paid are 25 per cent. lower, so that in these two items together the employer in France has an advantage over an English mill owner of more than 52 per cent. On the other hand, a somewhat greater number of hands have to be employed in France than in England for a similar amount of work, and some classes of English workpeople in-dividually produce more than the same class of French workpeople; but on the whole, after allowing for these considerations, the best authorities agree that labor in France costs one-fourth less than in England; in other words, the earnings of a French operative are 25 per cent. less than those of the British workingman. Then are the French artisans in worse circumstances than the English industrial classes? Quite

the contrary.

The most striking fact with regard to the French working classes is that nearly all are possessed of money. However little they earn, they save something. Thrift is their great characteristic; in fact, it is said of the French operatives that they spand less



SLOTTED CROSSHEAD, JOURNAL BOXES & GIBS

favor of the French workingman. But the he is paid 25 per cent. less than the English-man, and therefore how is it that he is able

During various inquiries made of late years into the factory laws, eminent wit-nesses declared that the physique of our operatives is deteriorating; if so, then the operatives is deteriorating; it so, then the hams, eggs, potatoes, spirits and so forth, in which they more and more indulge, have not been of much use to them. Of course, the great mistake of the English working classes is intemperance; the public house is the sink down which he steadily pours his

ing machine. Approximately the tonnage which has passed over each of the pieces of rail all taken from various localities of the track of the Pennsylvania railroad, has been computed as being, of course, a much more accurate measure of its value than time of service. Again, position on a track, whether on a curve or on a straight line, and also whether subject to high speed or not, obviously has an influence upon the durability of a rail, and attention has been given to these points in estimating the value of a rail. The rails have been divided by Dr. Dudey into two classes on this principle, viz. : Those which crushed or broke in service, and those which did not crush or break in ser-The former are regarded as bad rails, and the latter as good rails. The principle of division brings among the bad rails four whose tonnage is higher than the lowest tonnage of any rail among the good ones. to accident which a in view of the liability roken or crushed rail may occasion, it thought no one will claim that a rail which

has broken or crushed in service should be classed among good rails, even though its tonnage may entitle it to be so rated.

Dr. Dudley then gives a history of each sample, together with a section of the rail when removed from the track. The following table summarises the results of the res ing table summarizes the results of these chemical and physical tests, showing the tonnage in millions of tons, the location, whether on a curve or a tangent, the elongation:

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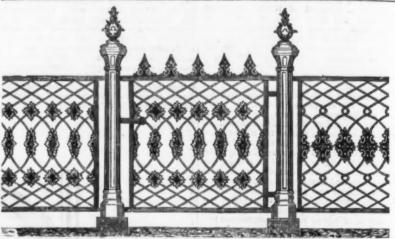
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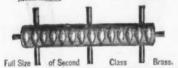
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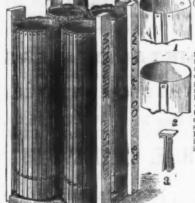
Repairs for Stoves made at Troy, Albany, Rochester Cleveland, Buffalo, Boston, St. Louis, Quincy, Chicago Silwankee and elsewhere, at I MY Bandolph St. CHICAGO, ILL.

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Market Steel Wire, Crinoline Wire, tempered and covered Also Patent Tempered Steel Furniture Springs, constantly on hand, 234, 236 and 238 West 29th Street,

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MANUFACTURERS OF ALL KINDS OF HAMMERED AND ROLLED

Warranted Equal to any Produced.

BEST REFINED TOOL CAST STEEL

For Edge and Turning Tools, Taps, Dies, Drills, Punches, Shear-Knives, Cold-Chisels and Machinists, Tools generally.

SAW PLATES

For Circular, Mulay, Mill, Gang, Brag, Pit and Cross-Cut S . ws.

Sheet Steel

For Springs, Billet Web and Hand Saws, Shovels, Cotton Gin Saws,

SIEMENS-MARTIN (Open-Hearth) PLATE STEEL

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All our Plate and Sheet Steel being rolled by a Patented Improvement is unequaled for surface shish and exactness of gauge.

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Finished Rolling Plow Coulters with Patent Screw Hubs attached. Agricultural Steel cut to any pattern desired. Steel Forgings made to order. Represented at 59 BEEKMAN ST., NEW YORK, by

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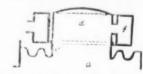
New Patents.

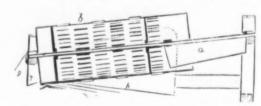
We take the following abstract of new patents, recently issued, from the official record:

MACHINE FOR CLEANING AND SIFTING TACKS. To H. H. Heald, Sandwich, Mass.—Aug. 20.—I. In a tack cleaner and sifter, the inclined rotary cylinder b, constructed of solid sheet metal and of uniform diameter throughout, open at its receiving end, and combined with a gate, guard, or fender, and a chute at its discharging end, and provided with slots punched from its inside outwardly.

2. The combination of the inclined, re-

In a wood burning furnace, the combination, with the body a, of a central dome d, open at the bottom across its whole extent, and





PIPE WRENCH WITH CUTTER.

To John Brewer, Brooklyn, N. Y .- Aug. and operated in connection with a pipe cutter. 2. The combination and

arrangement of the burr scraper or chamfering tool B, the screw O, and the body of the imple ment, having the opening C for the clearance of chips, with the frame I, carrying the cutter D and

3. The opening for the passage of the chamfer-ing tool, so made that the cutting edge of said chamfering tool shall pass through the opening in the V part of the hook

on a line, or about on a line, with the center of the cutter D, thereby adapting it with equal fa-

cility to all sizes of pipes. TAP WRENCH.

To Chas. H. Fowler, Boston, Mass.—Aug. 20.—In a tap wrench, the arm a, provided with the central portion. tion b, square opening e, and longitudinal hole leading to said square opening, in com-bination with the round die e, groove e', and pin f, and the arm a', provided with the screw d, the same hole providing for the screwing on of the arm a' and the entrance and guidance of the round die e.

METALLURGIC GAS FURNACE.

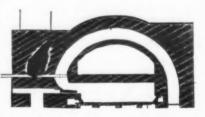
To Carl Grobe, Berlin, Prussia.—Aug. 20.—The coal is coked before being fed to the producer. The retorts are heated by the

waste heat of the products of combustion on their way to the chimney. The combi-nation of the retorts A and the feed-screw C, tightly fitted therein, the retort-inclosing

tary, slotted sheet-metal cylinder b, vibrating feeding-chute a, discharge-chutes g h, rounding said dome, and communicating and gate, guard, or fender r. through the exit pipe thereof with the chim-

METALLURGIC GAS FURNACE.

20.—I. The combination of the burr scraper or chamfering tool B with the adjusting screw O, they being connected together by the swivel joint and operated in cornect



around the nozzles of the gas-flues, and have their dampers near the point of delivery, so that they are always full of air. I. In a metallurgic furnace of the class specified, the hollow back walls and bosh

specified, the hollow back walls and bosh communicating with the regenerator flues.

2. The combination, with the hearth or combustion chamber of a metallurgic furnace, of the air-delivery ports, inclosing the contracted gas-delivery ports, and the dampers m n located with relation to said ports as specified, and adapted to regulate the admission of air

regulate the admission and gas to the hearth.

STOP-COCK CASING.

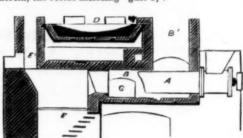
To Patrick Burke, Rochester, N. Y.—Aug. 20.— 1. In combination with the lower casing A, and adjustable section C, the permanent flange D and detach-

able cover a.

2. The block b, rigidly secured to the adjustable section C, in combination with a lower casing, A, of non-circular cross-section.

3. The casing A, provided with the neck d, in combination with the block b and adjustable section C, whereby the latter is retained in a vertical posi-

The following trade-mark was issued Au



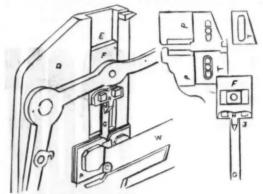
chamber B and flues B', the fire-place E, and the passage or channel E', and the smelting or puddling chamber D, located above the fire-place and communicating with the flues and shield, and the word 'American.'"

BLIND WIRING MACHINE.

To Carl Hinz, San Francisco, Cal.—Aug.

20—I. The slotted standards B, rising from the bed-plate A, said standards having the foot cut back at G', so as to admit the guide H' and allow it to present an unbroken front.

2. The slotted carrier F, moving in the



groove E, as shown, and provided with an adjustable independent driver, G, in combination with the clamp H, with its downwardly-projecting spreader J.

3. The driver G and laterally-sliding plates P, in combination with the guideplates T, the inclined staple-holder W and the casing D, with its gage-shoulder F', to hold the slats in position.

WOOD-BURNING FURNACE broken or chipped under heavy blows. If its composition can be imitated it will produce the hardest and toughest alloy known,"

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wedes and Norway Iron, Norway Nail Rods.

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charge must necessarily depend upon circum-stances.

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#### The Iron Interests of Ohio.

The following interesting information about the iron industry of Ohio is condensed from the forthcoming report of Hon. W. J. Walls, State Commissioner of Labor Statistics :

THE FIRST BLAST FURNACE IN OHIO was built by David Heaton and his brother James in the year 1804. It was located on Yellow Creek, Poland township, Mahoning Yellow Creek, Poland township, Mahoning county. The second blast furnace built in the State was by Robert Montgomery and John Struthers, on the same stream, about three-fourths of a mile from its mouth. This was in the year 1806. The Heaton Furnace went out of blast about the time the Montgomery and Struthers Furnace went into blast, and was never started up again permanently, but the second furnace was worked with considerable regularity until 1812, when its employees were all drafted, and the furnace never started up again.

THE START IN THE MUSKINGUM VALLEY

In 1808 a furnace was erected in Muskingum county, four miles west of Zanes-ville, on Licking Creek. It was built by Moses Diller, with a capacity of about one ton per day.

In 1811 a furnace was erected in Adams county, known as the Brush Creek Furnace, which was yet in operation in 1837, when Prof. Mathers was making a geological survey of the State, and he relates that at that date, with 12 employees, it had made, in 119 days, 200 tons of iron. Two other furnaces were erected in Adams county—one known as the Marble Furnace and the other as the Steam Furnace, the latter supposed to have been erected about 1814, and called the Steam Furnace because it was the first to

Rock region was in 1818, in Greenup county, Kentucky. Its capacity was one ton per day. Its stack was 25 feet in hight and the diameter of bush six feet, with open top and

On the Ohio side the first built was the Union Furnace, in Lawrence county, in 1826. It was owned by James Redgers &

The next was built in Scioto county in 1827, by Daniel Young and others, and was known as the Franklin Furnace, its capacity peing seven tons per day.

The oldest furnace in the State prepared to make iron is the Pire Grove, of Lawrence county, owned by Means, Kyle & Co., which was erected in 1829, with an annual capacity of 4500 tons of charcoal iron.

OFFICIAL TABLES OF AMOUNTS OF IRON MADE.

The following table is prepared to show the growth of the present blast furnace in-lutry of the State. The dates and figures are taken from public records and data prepared by old furnace men:

Tear.	Stacks erected dur yr.	Total Stacks.	Inc. ca- pacity for yr.	Tot. ca- pacity at end yr.
829	1	R	4,500	4,590
832	3	4	12,000	16,500
833	3	7	11,300	27,800
834	2	9	8,500	36,300
837	1	10	4,000	40,300
839	1	2.2	4,500	44,800
844	X	1.9	4,000	48,800
845	2	3.4	11,000	59,800
846	3	17	23,500	82,300
847		18	4,000	86,300
849	Y	19	4,000	90,300
850	I	99	12,000	102,300
851		21	4,000	106,300
352	. 2	23	8,000	114,300
353	. 4	27	17,000	131,300
854		38	61,500	142,800
355	. 1	39	6,000	198,800
356	. 1	40	5,000	203,800
359	. 3	43	30,000	233,800
360	. 3	46	30,000	263,800
361	. 1	47	10,000	273,800
362	. *	48	6,000	279,800
363	. X	49	6,000	285,800
364	. 2	51	14,000	299,800
365	. 2	53	11,000	310,800
866	- 5	58	35,000	345,800
67	. 4	62	52,000	307,800
168	. 5	67	59,500	457,300
169	. 3	70	35,000	492,300
70	- 4	74	41,500	533,800
71		77	33,000	566,800
72	. 6	83	80,000	646,800
73		86	34,500	681,3:0
74	. 4	90	43,000	724,800
75		95	43,500	767,800
-6		08	22,003	700.830

Furnaces not included in the foregoing table were erected in the years 1826, 1827, 1836, 1842, 1846, 1853, 1855 and 1856, a total of nine, all in the Hanging Rock region, all of which have been dismantled.

According to the foregoing table the pro ducing capacity of the blast furnaces of the State is, in round numbers, 900,000 tons an-nually, while the production has barely nually, while the production has barely equaled half the capacity during the past few years.

#### THE ARMY OF IRON-WORKERS.

The following is a list of the persons ployed in the several counties at the blast furnaces, as returned by the operators thereof; also giving the number formerly employed at the furnaces now out of blast:

Counties.	Present employees.	Former employees.
Athens	148	1111
Belmont	56	
Columbiana	490	* * * *
Cuvahoga	65	101
Franklin		30
Gailia		265
Hocking	112	200
Jackson	1.102	400
Jefferson		264
Lucas		5.3
Lawrence	1,645	1,220
Mahoning	514	87
Muskingum	50	
Paulding		150
Perry	505	30
Scioto	137	450
Stark		95
Trumbull	150	150
Tuscarawas		100

This makes the number of present employees aggregate 5160 for the 53 furnaces in operation, and 4015 employees necessary to put in operation the other 56 furnaces that are now out of blast. The 5100 do not represent all the employees, as some of the furnaces purchase their coal and ore, and the producers thereof are not counted by the furnace proprietors in making their returns to the Bureau. This makes the number of present em-

#### The History of the Buckle.

As an instance of how large industries have rapidly risen at the bid of capricious fashion to great prosperity, only to collapse suddenly by the whim of one person, we cite the following from the "Great Industries of Great Britain:"

Great Britain: "

The reign of the buckle began about the time of William and Queen Anne, and lasted nearly to the regency of George the Magnificent. There were shoe buckles, knee buckles, waist buckles, hat buckles and buckles for a number of other purposes, of infinite variety as to size, fashion and quality. Shoe buckles were most in vogue, Everybody wore them—man, wowen and Everybody were them—men, women and children—and the rich vied with each other in wearing those of the newest pattern or device. There was the Flemish fashion, the Spanish fashion, the Italian fashion and the Spanish fashion, the Italian fashion and many others. The price of a pair of steel shoe buckles might range from a few pence to ten or twelve guineas, and many wore them of gold or silver and had them set with gems. Other trinkets of like character, also made of steel, were in general wear. Purses of fine steel rings, with steel beads and tassels; steel chatelaines, bracelets, brooches and watch chains; dress swords, with saw-pierced steel hilt and scabbard mounts; steel latchets, clasps and buttons; steel fringes, and an infinite variation. buttons; steel fringes, and an infinite variety of other ornamental articles, were conspicuous in the attire of every person of fashion, and formed the principal attractic of the shop windows. These were all compreof the shop windows. These were all comprehended under the generic term of "steel toys," a name which enabled Burke to fix upon Birmingham the title of "Toyshop of Europe," The word "toy" is now as-Europe." The word "toy is now associated chiefly with children's playthings, Steam furnace because it was the first to use steam in making blast. The last attempt to make iron in Adams county was about the year 1850, by a gentleman now a resident of Cincinnati. The attempt was not a financial success, and was abandoned.

THE HANGING ROCK REGION.

The first furnace built in the Hanging Rock region was in 1818, in Greenup county.

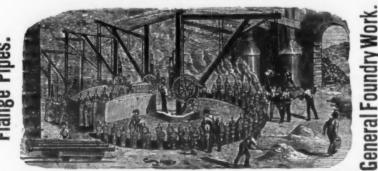
Bock region was in 1818, in Greenup county. one time a third of the inhabitants of Birmingham were engaged in making backles alone; and all the little hardware towns round about were helping in the manufacture. Walsall made only the "chapes" or tongues; other towns produced separate parts. The value of all these toys consisted mainly in the workmanship bestowed upon them, and thus was fostered a handicraft skill and delicacy which have never since deserted the fingers of the Birmingham artisan. It was at the hight of this mania artisan. It was at the hight of this mania that Matthew Bolton came upon the scene, took up the trade with others, at his famous took up the trade with others, at his famees factory of Soho, and, as was usual with everything he touched, made it his own. Boulton's steel buttons, cut with facets, sold for as much as 140 guineas the gross. The prices obtained for such things were indeed enormous, as the following paragraph from an old print will show: "1777. January 18. Was kept at court as her Majesty's birthday. The ball was splendid and numerous, and the dresses rich as had ever been seen on any like occasion. One lady appeared with a button of steel to loop up her train which cost 110 guineas." Of course while this lasted it was high-carnival time with the cost 110 guineas." Of course while this lasted it was high-carnival time with the workmen of Birmingham, but they were to workmen of Birmingham, but they were to learn from bitter experience a lesson which has since been repeated many times in their history—how unstable is a trade which depends on fashion. The Prince of Wales appeared at a State ball in 1795 wearing show strings? From that moment the trade was doomed. Amid general ridicule, mingled with bitter scorn and invective the effectivate invovation, as it was then regarded. feminate innovation, as it was then regarded, gained ground, and the buckle trade cellapsed. Great distress followed, accompanied lapsed. Great distress followed, accompanied by frequent disturbances. The weare is of shoot-ties were hooted and pelted in the streets. "I remember," writes an octogenarian, "that a party of the buckle makers, having nothing else to do, hired a donkey, and led the animal about the streets with shootstrings tied about its hoofs, to ridicule the new fashion and to underse charity at the new fashion and to implore charity at the same time." The change in public taste extended to the other "fangles and gauds" which had so long been the rage, and utter ruin seemed to have fallen on the town.

> The Channel Tunne! .- The site of the tunnel mouth of the Channel Tunnel on the English side, at St. Margaret's Bay, has been abandoned and the work there been stopped because recent surveys between that point and Sangatte on the French side proved that to cut a tunnel between those points would entail an enormous amount of work in sinking. The scheme now before the company provides for the sinking of a new shaft at or close to Dover. The site on the French side at Sangatte, near Boulogue, is still looked upon as the best that could be chosen for the commencement of the tunnel The shaft sunk there is already 70 meters in depth, with a diameter of 2 meters, and the engineers consider that when they have get to meters further down the horizontal cut-ting may be commenced. The engineers of both countries agree that the French open-ing of the tunnel is the most difficult part of the undertaking, as a clayey soil has to be dealt with instead of chalk, and the incursion of water causes much troub!

A New Cunarder.—A magnificent screw steamer, the latest addition to the flect owned by the Cunard Company, was launched Nov. 12 from the shipbuilding yard of Mesers. James and George Thomeor. Glasgow. The vessel was named the Gallin by the Marchioness of Ailsa. The dimensions of the Gallia are as follows: Length over all, 450 feet; breadth, 44 feet; depth, 36 feet; tonnage, 5200; englues, three cylinder, compound direct-acting; diameter of cylinders, one of 61 inches and two of 54 inches each; stroke of piston, 60 inches; horse-power, 700. Mr. John Burns said that the Gallia was the 165th steamship which had been built for his firm, whose foot since

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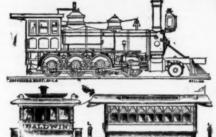
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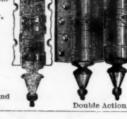
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A Consular Report from the Rhine Provinces.

The commercial agent of the United States at Aix-la-Chapelle, Germany, under date of July 20th, sends to the Department of State an interesting dispatch relative to the condition of commerce and trade in his consular district. He refers to the disastrous retrogession which has been experiboth in manufacturing and commercial industries, and states that extensive establishments, which once employed many hundred men, are now apparently idle. The thrift commercial world. In the looking-glass ments, which once employed many hundred men, are now apparently idle. The thrift and busy hum of industry which character-ized that rich and fertile region but a few years since, now seems lagging and almost

The Iron industry has the appearance of general sluggishness, and what is produced finds nothing but the most discouraging prices in the market; so depressed has been this condition that several large establisments here temporarily suspended because they were sustaining a constant loss. Many who are pecuniarily interested in this great industry claim that in view of the vigorous competition of foreign iron and the decrease in the consuming capac-ity of the country, there is left to the manufacturer only the choice between two evils— either business must be suspended or totally annihilated by foreign competition, or the work must be prosecuted at the very lowest prices and the market furnished at cost or even at a losing value. To discontinue business is sure loss, while to prosecute it is running a dangerous risk of finding nothing but a losing market. The consequence is that many million dollars which are invested in this industry are as devoid of interest as though they were buried in the depths of the iron beds themselves.

A large amount of bituminous coal is mined in this district, but at present the same sluggishness which is so conspicuous in all the branches of industry is to be seen in this enterprise. Most of the mines continue in operation on half time, but the recompense for the work done is so small that the miners and manipulators are greatly depressed and discouraged. As it is with the above-mentioned industries, so it is with all the rest, especially with the soap, machine, linen needle and woolen manufactures.

THE LEATHER TRADE

is a branch of German industry which has received a greater shock from American competition than any other department of manufacturing enterprise. Since our manufactories began to obtain a foothold in the markets of Germany during the year 1874, a gradual decline has taken place in the pro-duction and sale of German and English duction and sale of German and Engush leather. The prices obtained for the readymade article have become so depressed that scarcely any recompense for the capital invested has been derived during the past year. The prices offered for current orders year. The prices offered for current orders are so low that, owing to the continued high price of oak-bark, the manufacturer finds it absolutely impossible to fill them without more or less sacrifice. This is the result of a powerful and increasing American competition. Every year the German sole-leather industry wanes, and the demand for American leather waxes stronger. It is estimated that 600,000 sides of sole leather were expected from America to the German markthat 600,000 sides of sole leather were exported from America to the German markets from the 1st of June, 1877, to the 1st of June, 1878, and the demand increases; and and with its increase comes a shadow over the leather industry of this land. Men having large sums of money invested in the enterprise see how futile interventions at conventions with the tive, will be dangerously crippled if not entirely destroyed. But while the manufacturer makes this appeal, the consumer, by the preference he shows for American leather, expresses a positive desire that its presented in the consumer of the consumer. ther, expresses a positive desire that its present condition of importation should remain undisturbed, unless some other measure could be adopted by which the facilities for its introduction into the German market would be increased. In all the reports upon the subject from the different chambers of comtion, there is a general disposition to complain of the quality of the American leather. The argument is used that the German leather is of a better quality and ought not to be superseded by the cheaper material which American industry and enterprise has crowded upon their market. If it be true that the American leather is poorly tanned, and that the high quality of the German article more than counterbalances the cheapiness of the American. ticle more than counterbalances the cheapness of the American product, the question naturally arises. Why does not the consumer complain? His voice has never been raised against the American article, while his hand is constantly stretched out to receive it with favor. His interest in the quality of the leather consumed is direct, and it is only just to defer to his judgment. The voice of complaint and protest is raised only in the raise of the number of American citizens arriving from abroad, but the increase is mainly of foreigners. Germany continues to furnish the largest number of immigrants, Ireland being a long way in the rear. Many of the immigrants "go West and grow up with the country," in farming communities, and make valuable additions to our national wealth.

Cleveland power. to defer to his judgment. The voice of complaint and protest is raised only by those who have capital invested in the business, and who have within the past two years been compelled to recognize the fact that a former lucrative market has become an irresistible competitor. The boot, shoe, harness and carriage makers of Germany prefer the American leather, and the wonderful inroads that this article has made upon the market of this land teaches the great commercial of this land teaches the great commercial truth that what satisfies most sells best, and that material which pleases the consumer will always find a superior demand in the marts of the world, in spite of the natural prejudice of home interests and false rumors of inferiority.

has been given to this enterprise, and some establishments have already been enabled to increase their working hours. I cannot learn that the American needles have ever reached the North German market to any extent, but as they have competed successfully in the English market, there is ample ground for hope that they may obtain a firm and remunerative place in the German trade.

GLASS MANUFACTURE

business there has been a decrease of 15 per cent. in the sales and 20 per cent. in the production, as compared with the estimates of last year. This has arisen chiefly from the competition of foreign ware, in which rivalry the American product played but a small part, the principal competition being from the Belgian glasses. The win-dow-glass factories, owing to the inactivity of all building enterprises, have been in a state of comparative idleness for the past year, and what little material has been pro-duced finds a meager market and a still more meager price.

THE SODA INDUSTRY

is in a distressed condition, owing to the idleness of the industries on which it depends for a market. This is one cause of its defor a market. This is one cause of its depressed condition, but there is another and more potent one. Within the past two years English shippers have freighted the German markets with soda at rates which have been fatal to the home industry. Since 1874 there has been a decrease in the demand for the German soda to such an extent as to compel a reduction of nearly one-third of the amount produced in that year. In 1875 the the protective tariff was reduced nearly two-thirds, from which time England comthirds, from which time England com-menced a vigorous competition, which has proven so disastrous to the German soda interests that those interested in the enterprise are making strenuous efforts to secure an increase in the tariff in order to save the

home industry from annihilation.

THE MANUFACTURE OF PAPER, THE MANUFACTURE OF PAPER,
once a prosperous and remunerative business, has fallen off in production since 1875
about one-fourth. The principal cause of
this shrinkage is the pressing and irresistible
competition of American and English paper.
While the foregoing facts show the present
condition of trade and manufacturing interests of this district as being in a deplorable
condition, there is evidence of a revival of

condition, there is evidence of a revival of business in all these branches of industry since the Berlin congress accomplished its good work.

The president of the Royal Society for The president of the Royal Society for Northern Antiquities, in Copenhagen, Mr. Worsaae, whose archæological and historical works are well known to English and American archæologists, gave, at the meeting of the society, Nov. 20, an elaborate account of the archæological discoveries made in the last 10 years in America, and the inferences drawn from these discoveries by American archæologists, Abbot, Rau, and others, and called attention to the fact that American archæology not only contact that the contact that t that American archaeology not only confirms what European archaeology has established concerning the so-called Stone Epoch in the history of mankind, but also, in details, presents many a missing link, and promises to give a considerable extension of our knowledge of this stage of civilization. Alluding to Von Siebold's discovery, in Japan, of mounds very similar to those found in Alaska, Canada and Scandinavia, Mr. Worsaae made a remark on the arrangement of the archeological muscums in America which is worth noticing. He com-plained that in most cases no indication is vested in the enterprise see how futle is any attempt at competition with the American hemlock-tanned leather, and have consequently appealed to the imperial government for protection. They claim that unless a higher protective tariff is at once adopted against the importation of American sole leather, the German leather industry, once so flourishing and remunerative solutions of the greatest importance to know whether or not there exists a difference between articles found on the Pacific coast; whether or not there exists a closer resemblance industry, once so flourishing and remunerative solution is at once adopted against the importation of American sole leather, the German leather industry, once so flourishing and remunerait might be of the greatest importance to know whether or not there exists a difference between articles found on the Altantic and of America and the eastern coast of Asia, and between articles found on the eastern coast of America and the western coast of Europe, &c. Mr Abbot's view that Amer-ica has been inhabited as early as Europe, Mr. Worsaae is not unwilling to accept, though he thinks that it has not yet been

established as a scientific fact. The arrivals of immigrants are larger than they were in 1877, the number arriv-ing at New York from January 1 to Novem-

Cleveland papers report that Mr. Chas. F. Brush, inventor of the Brush dynamo-electric machine, has completed and exhibited apparatus for a New England cotton mill, which gives 18 lights of 2000 candle power each, a 14-horse engine being used to furnish the power. The lights are claimed to be under perfect control, and not dis-turbed by accidents to one or more in the circuit. The carbons in each lamp, it is also claimed, cost 72 cents, and last 8 hours. This is about one-sixth the cost per candle power of the Jablochkoff lights in the streets of Paris, which, however, cost more than the gas lights they displace.

The shipments of quicksilver from San of inferiority.

PINS AND NEEDLES.

For the past four years, and up to the close of the contest between the Cossack and Mussulmen, this branch of industry has been discouraging to those interested in its prosperity. Within the past three months, and especially since the clouds of a general European war have disappeared, a new impulse



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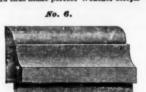
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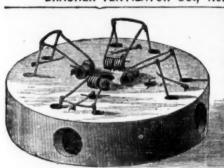
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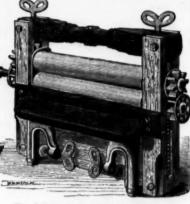
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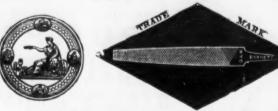
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In view of the many so-called improvements and ingenious arrangements of the teeth of Horse Rasps made within the last few years, we take occasion to recommend our own Horse Rasps, made of the best American Steel, all hand cut in the old style by the most skilled mechanics; and we guarantee them to be unequaled in the market, as is best evinced by the unanimous verdict of all the skilled horseshoers who are using them for the last fifteen years all through the United States.

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A SILVER MEDAL has been awarded above goods at the Paris Exposition, being the only medal awarded any American manufacturer of Tacks and Wire Nails.

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With Ornamented Mouldings.

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Of Cotton Linen and Steel. For all purposes for which Tape Measures are required.
Only manufacturers of Paine's Patent U. S. Standard Steel Measuring Tapes,

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The Ansonia Corrugated Stove Platform, with its heavy figured ogee border, is believed to be the best Platform offered to the trade. As shown in the illustrated section herewith requires no nailing to keep it in place or to prevent it from turning up at the edge; while the metal is of sufficient thickness to require no lining.

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PATENT CUTTERS FOR THE TEETH

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GEAR WHEELS

British Columbia had furnished 5,552,000 ounces; Quees; Nova Scetia, 271,000 ounces; Quees, Ontario, &c., 50,000 ounces, making a total of 4,173,000 ounces, worth \$66,768,000.

The annex following the United States Agricultural Annex was devoted to a great extent to exhibits of carriages and carriage extent to exhibits of carriages and carriage.

for use. If the cutter becomes dull before a wheel is completed, it can be taken out, sharpened and returned to its place in a few moments without risk of altering the form of teeth to be cut. Cutters for milling any irregular form made to order on the same plan. Parties having occasion to use mills for irregular shapes on sewing-machine, gun or other work, will readily see the advantage such cutters possess over those in general use, both as regards economy and convenience. Descriptive circular with price list sent by mail on application.

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### THE PARIS EXPOSITION.

Great Britain and Her Colonies .- IV.

(From our Special Correspondents.)

B. 3, American Section Exposition Universelle, Paris, Dec. 2, 1878.

Various coal companies exhibited samples of their products. Among the principal of these exhibits we noticed that made by the Wigan Coal and Iron Company, Limited. The works of this company are situated at and near Wigan, in the county of Lancaster, England. They comprise extensive collieries and establishments for the manufacture of and establishments for the manufacture of coke, also smelting furnaces for the production of pig iron. About 10,000 hands are employed. The coals produced are the cannel coal, gas coal, steam coal and house coal. Samples of the cannel and gas coal are exhibited, and we give below some details concerning them. The output of the collieries approaches 2,000,000 tons per annum. The coke works consist of 600 ovens, with all appliances for washing the small coal from which the coke is manufactured. The from which the coke is manufactured. The iron-smelting establishment has 10 furnaces of modern type, and appliances capable of yielding 500 tons of pig iron daily. The company has also a large tract of mineral ground, near Cherchell in Algeria, pur-chased for the purpose of working iron ore for the use of their iron-smelting works. Among the objects exhibited we found a section showing the workable seams of coal in the Wigan district from the top seam down as far as the cannel coal; specimens of iron ore extracted from the company's mineral property in Algeria; samples of the pig iron made from this ore, brand K. H. M.; and cannel coal used almost entirely for gas making. An analysis made by Prof. Penny of Glasgow gave the following results: Purified ing. An analysis made by Prof. Penny of Glasgow gave the following results: Purified gas per ton of cannel, 10,376 cubic feet; illuminating power of gas burning 5 cubic feet per hour, 24½ candles; coke per ton of coal, 12 cwt. 40½ lbs.; carbon in coke, 97 per cent.; ash in coke, 3 per cent.; specific gravity of cannel, 1.268; weight of a cubic foot of cannel, 79,5½ lbs. The Wigan Coal and Iron Company also exhibited a specimen of Orrell or Arley Mine coal, used for house fires and for making gas. The following analysis of this coal was made by W. King, C. E., engineer of the Liverpool Gas Company: Purified gas per ton of coal, 9780 cubic feet; illuminating power of gas burning 5 cubic feet per hour, 18,3 candles; coke per ton of coal, 13 cwt. 1 qr. 12 lbs; carbon in coke, 97.71 per cent.; ash in coke, 2.29 per cent.; specific gravity, 1.279; weight of a cubic foot of coal, 79,7 lbs. The Cambrian Patent Fuel Company, Limited, had some artificial compressed coal. In the main exterior gallery facing the palace of the Trocadero we found an obelisk built up of blocks of coal taken from 18 coal mines in the counties of Pictou, Cape Breton and Cumberland ties of Pictou, Cape Breton and Cumberland

A large number of sewing machines were exhibited in the British section. Prominent among these were the Singer and the Howe machines. Among the English machines we noticed those of Keats, Smith, Stanley & Co., Limited; Newton, Wilson & Co., and Tay-lor's Patent Sewing Machine Company,

Three of the most important exhibits of hand tools were made by Thomas Jowitt & Sons, saws and hand-cut files; Thomas Tur-Sons, saws and nand-cut mes; I nomas fur-ton & Sons, saws, edge tools, rasps, &c., and John Bedford & Sons, saws, files and other tools; all three being Sheffield firms. Samuel Chatwood, London, Herring's com-petitor in the famous battle of safes which came off at the Paris Exhibition of 1867, had an important exhibit of safes and locks. Numerous exhibits of hardware, hollow-ware, pins, needles and fish hooks occupied a considerable portion of the main hall of the British section.

British section.

The production during the year 1876 of fine copper of the Wallaroo and Moonta mines, South Australia, was represented by a large obelisk. An octahedron containing 290 cubic feet represented the gold raised in Canada to December, 1877. Of this amount British Columbia had furnished 5,852,000 curves: Nova Scotia, 271,000 curves: One

Henderson & Co., chasgow, sectually. The former exhibited only three specimens of their carts for all classes of work, although they manufacture wagons, drays, trollies, agricultural implements, horse cars, and railway rolling stock as well. These vehicles were their light spring tipping car, which is fitted upon patent axle and three springs. These latter do not prevent the cart from being so constructed as to tip completely backward. The body is kept in place by an improved self-fastening tipping lever. The other two specimens consisted of a brewer's cart, low on the ground and convenient for loading, but with high wheels for ease in draught, and a four-wheel spring trolly. Messrs. Henderson & Co. exhibited a sidelight landau for single or pair horse, fitted with patent automatic balance spring-head, which can be opened or closed from the inside. It is hung on long easy springs, with light which respect these it is claimed. former exhibited only three specimens of inside. It is hung on long easy springs, with india rubber bearings; these, it is claimed, giving a soft and noiseless motion, as well as ensuring greater durability to the wheels and under carries. The brake is on an as ensuring greater durability to the wheels and under carriage. The brake is on an improved principle, and is fitted with Henderson's india-rubber concealed dovetail drag blocks. Another improvement adopted by the firm in this landau is the patent rubber-cushioned syle. This consists mainly of RHODE ISLAND HORSE SHOE CO. Spanty Court House, Mt. Vernou, Holt on the wind and of the carriage. This firm also showed an ingenious arrangement for Consult, Congon, Mo. Also to buildings it Boston, Chandand, E. Have been for years in daily use in every principal city throughout Europe, and are incored by the Leading Architects of the Constituents of the contrivance referred to the driver days the Leading Architects of the Constituents of the contrivance referred to the driver days the Leading Architects of the Constituents of the contrivance referred to the driver principal city throughout Europe, and are incored by the Leading Architects of the Constituents of the contrivance referred to the driver days throughout Europe, and are incored by the Leading Architects of the contrivance referred to the driver days throughout Europe, and are incored by the Leading Architects of the contrivance referred to the driver days throughout Europe, and are incored by the Leading Architects of the contrivance referred to the driver days throughout Europe, and are incored by the Leading Architects of the contrivance referred to the driver days throughout Europe, and are incored by the Leading Architects of the contrivance referred to the driver days throughout Europe, and are incored by the Leading Architects of the contrivance referred to the driver days throughout Europe, and are incored by the Leading Architects of the contrivance referred to the driver days throughout Europe, and are incored by the Leading Architects of the contrivance referred to the driver days throughout Europe, and are incored by the Leading Architects of the contrivance referred to the driver days throughout Europe, and are incored by the Leading Architects of the contrivance referred to the driver days throughout Europe, and are incored by the Leading Architects of the contrivance referred to the driver days throughout Europe, and are incored by the Leading Architects of the contrivance referred to the driver days throughout Europe and are incored b ber-cushioned axle. This consists mainly of elastic india rubber cushions securely em-

the action the weight can be thrown to the back part of the vehicle.

And now we have completed our examination of the British exhibits, and And now we rave completed our examination of the British exhibits, and with it our reports on the Paris Exhibition. As we write these lines the Great World's Fair of 1878 is already a thing of the past, and victors and vanquished are hurrying from the Champ de Mars, the spectator of many a bloodless battle in the campaign of peace which has been carried on there for over half a year. A feeling skip to sadness comes upon us as A feeling akin to sadness comes upon us as we make our way through the piles of full and empty cases, the throngs of busy workmen and curious visitors. The flooring of the immense palace has been torn up to uncover the tracks over which the machin-ery passed on its way to the show, and over which it is now rolling on its way home. Wherever we turn our footsteps we find a feverish activity. Every nerve is strained now in tearing down what took so long to set up—that immense, beautiful, varied, heterogeneous, artistic, wonderful mass of wealth, the product of the arm, brain and soul of humanity. What was the Paris Exposition of 1878 is now relegated to the domain of history. uncover the tracks over which the machindomain of history.

#### Notes and Gossip.

The work of demolition has advanced with astonishing rapidity. Chaos is everywhere. The atmosphere in the building is clouded with dust. Hammer blows and voices shouting orders to the workmen echo through the long galleries. There are sounds of terrible confusion. In every available exterior space trucks and delivery wagons waiting their turn block the way. wagons waiting their turn block the way. The hardened gravel walks are cut up and broken by the digging out of the railroad for transporting the goods and the crushing loads that lumber over them. Not many more days can elapse before the dismantling will be accomplished. The French section, which was the last to be touched—very few of the exhibitors removing any goods before the joth—is now in the worst condition. of the exhibitors removing any goods before the 10th—is now in the worst condition. The Japanese, English and some of the American exhibitors began packing up promptly on the 1st of November, but the sections of these various people do not present any such scenes of devastation as the French galleries. This astonishes me considerably, as at the opening work lagged greatly, and the laisser aller of the French laborers promised for some weeks to greatly, and the laisser aller of the French laborers promised for some weeks to keep the prospective exhibition in confusion. The scene nearest to that we are having on the Champ de Mars is the animated picture a railway depot presents at the moment a train arrives. Entrance to the Exhibition grounds is forbidden to the public. Exhibitors, officers, journalists, workmen and those absolutely interested and connected with the works are allowed and connected with the works are allowed to pass in by showing either their photographic cards or tickets granted especially for the occasion. The Gaulois says that yesterday 150,000 Parisians who had not yet seen the Exhibition applied for permission to enter. They were, of course,

The extremely bad weather makes circulation through the park unpleasant work for whoever is obliged to move about in it. Not a small amount of trouble has been experienced by those who bought goods in the Exhibition. When they came to carry away their purchases it was discovered that away their purchases it was discovered that there was a tangle of custom-house regulations to face. To evade these was the thought of the hour, and tall hats, umbrellas, overcoat sleeves, ladies' skirts and a score of other means were called into service in order to avoid detection. But it is nearly all over now, and the uppermost question in the French mind is what to do with the Exhibition building. The idea of making an industrial museum of it, of which project I have already written you, gains favor and that already written you, gains favor and strength every day. The Canadian government has given the immense Canadian trophy that stood in the north vestibule of the Champ de Mars Palace to this museum, now Champ de Mars Palace to this museum, now in a fair way to be established. As the products exposed on the balconies of this trophy are the property of various private exhibitors, they are, of course, not included in the princely offer, but they will be replaced by a much more interesting collection of the agricultural and natural products of the Dominion. Considered purely as a marketable article the established value of the trophy is vo coofference. phy is 100,000 francs; as an object of art and study its price cannot be estimated.

We are now in the period of gift-giving and testimonials. Commissioners and assist-ant commissioners count in the front rank. can be sharpened by grinding without changing their form. Cutters made on this plan will outlast many of the old form, with the advantage of being always ready

Henderson & Co., Glasgow, Scotland. The objet d'art from the foreign commissioners. On the base of this group in silver the names of all the donators were engraved,

names of all the donators were engraved, "from Sir Cunliffe Owen, commissioner general of England, down to M. le Baron Morin de Malsabrier, commissioner general of the republic of St. Martin," as the evening journals express it. Mr. Cunliffe Owen was the recipient of a testimonial at the hands of the British colonial commissioners, as well as from the various exhibitors in the English certical who at less accounts had English section, who at last accounts had raised an enormous purse for the man who did so much for them. American exhibitors did not forget Gov. MacCormick, and, take it on all sides, everybody seems to be well pleased, for it was pretty hard work to dodge around among awards, decorations and subscriptions that make a man's heart lighter and his pocket heavier without strik-

ing something.

All the special lines of omnibuses and trains that were called into existence by the exhibition were withdrawn on the 10th. It is always easy now to find a place in the omnibus or a cab on the street. Coachmen have suddenly taken to behaving themselves, realizing that their harvest is gathered. Hotels are reducing their prices from the disgraceful figures of the last six months, and Cutlery.

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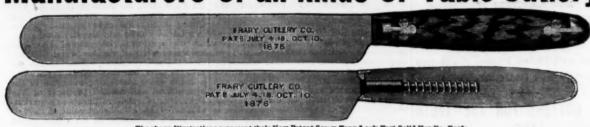
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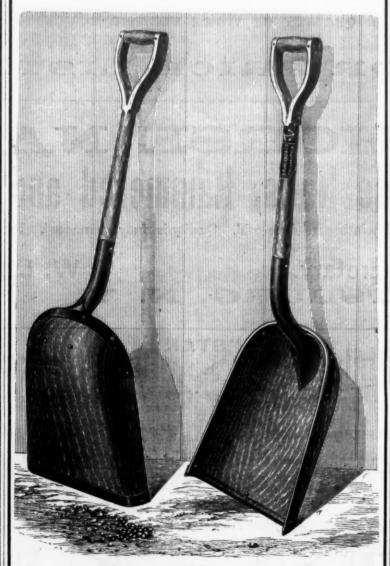
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seconded by the journal La France. I did not think its realization could come so soon nor be so brilliant. I understood the nature of great men well enough to know how immense concourses of the masses displeased them. \* \* \* In going away from the ministers, thinking by myself, I realized how hazardous my demand had been, but my instinct told me to overcome doubt and to destroy any such apathies. The opinion of friends whom I met did not seem to compass the grandeur and magnificence of the

ing letter:

"Versallles, to March.

"I should be happy to have you call upon me any day that will be convenient for you, at nine in the evening, Saturdays and Mondays excepted. I will talk with pleasure of

days excepted. I will talk with pleasure of the questions on which you are so well informed, and I shall be charmed to shake your hand,

"I made no delay in accepting the invitations, and, eager to be in the presence of the great writer, of the divine poet, whose sublime works I with poor Gautier had declaimed, hastened to the Rue Clichy. Victor Hugo received me as if he had seen me only yesterday, and invited me into his parlor, where I found my old friends of the Evenement of 1849, Meurice and Vacquerie. I found there also Dorton See, whom I had known at St. Antoine hospital, and Mr. Ernest Lefelve, then preoccupied with municipal affairs. municipal affairs.

municipal affairs.

"It was next to impossible for me to speak to Hugo, his time was so taken up by his friends, but he asked me to dine with him on the morrow. \* \* \* After that dinner he took me apart and motioned me to say to him what I wished. He listened attentively. He recalled a voyage made to Lille. He remembered many things long since forgotten by me. He spoke more to himself than to me. I listened without breathing a whisper, enraptured by the charmed words of the master, so simple and touching when he made no effort. \* \* \* He spoke thus a long time, but I did not interrupt. He then arose, went back into his parlor making a gesture of his hand. This particular conversation ceased in a

the spoke thus a long time, but I did not interrupt. He then arose, went back into his parlor making a gesture of his hand. This particular conversation ceased in a second.

"Hugo said that the exhibition must be. He named Paris, center of the business of the world—Paris, city of the people—that Paris which he loves passionately. He pictured the masses coming from all quarters of the globe to be mutually instructed with us, bringing us the flowers of their production, the result of their labor and industry—bringing all to our great and free Paris. He saw the throng of a hundred thousand together as in a measure, jostling yet callm. Without disturbances, without drunkenness—he saw them all. There might be some pickpockets or some attempts at pocket picking, but no more than in one of our own great retail stores. The poet saw it, and swept all before him by his earnestness. We saw it with him. The cause was definitely won.

"The next day the Rappel joined the France and the Petit Journal. The municipal council preoccupied itself with the Exhibition and notwithstanding convention from supplies and hency with the textine from a second. The social rate when until the trouble is ended. The 50 coal rainers struck for a monthly pay day and lower store prices, both of which the company refused, and when no end to the trouble then arising could be seen, blew out their furnace and stopped their rolling mill and nall mills. The company is now endeavoring to obtain possession of their miners' houses in the civil law process, having issued four 10 days' and four 30 days' notices; these trials will be considered test cases.

The miners of the Middle Lehigh Coal Company struck last September for an advance of 10 per cent. in wages beyond what other operators were paying in the same neighborhood. The price of coal not warranting such an increase, the colliery has been idle ever since. This, with a loss of two months early in the year, owing to be low price of coal, caused the landowners to obtain judgment for themselves and oth

France and the Petit Journal. The municipal council preoccupied itself with the Exhibition, and notwithstanding opposition from some of the French and foreign journals that we will not name, one of the first acts of the new ministry was the decree that there would be a Universal International Exhibition in 1878."

This is the way that Mossieur Turnel.

This is the way that Monsieur Turgan

The Foreign Machinery Hall, from the Canadian trophy at the one end to the Dutch colonial display at the other, is a picture of desolation. It is the most dismal sight on the desolation. It is the most dismal sight on the desolation was ago the was ago the state of the differences between the flint glass manufacturers of Pittsburgh to resume Machinery Gallery—that stage on which for six months was acted the drama of human skill and ingenuity—had withstood with tolerable firmness the saddening ravages of the demolition. But now it has met the common fate. Along either side of the long hall in the spaces that were octhe demolition. But now it has met the common fate. Along either side of the long hall, in the spaces that were occupied so gloriously during the summer by the pilgrims who made Paris their Mecca, the railroad stares at you with its rusted face. They tore up the flooring and brought the rails into use immediately after the closing, but for a week it amounted to but little besides a stumbling block for the blue-bloused workmen who, after an easy sleep since the first of May or June, had not accustomed themselves once again to the old routine. A half of the machinery has been taken away, and during every hour of the day the rough beams of the roof send back quivering echoes of the hammers that hide from Parisian view the wonders of machinery hall. Locomotives occupy the railway tracks, and their taking away leaves unfilled glaring vacancies in the foreign sections. Shafts are dismounted every hour, and careful artisans put them as quickly as possible out of the way of the clouds of dust that fill every square foot of the space in the vast building. The steam engines, which were our most familiar friends during the days of the fête, have been dismembered and are nearly all gone. The English section, large as it was, is well-nich nearked up. A nicturesque and gone. The English section, large as it was, is well-nigh packed up. A picturesque and grotesque sight is offered by the various little box offices erected by the British exhibitors at the sides of their exhibits. These now occupy promiscuous positions in the empty alleys or wherever packing straw and machinery cases leave an inch of vacant space. Workmen carry them about on their duct in future will be added to the tonne shoulders or turn them into temporary tool of the Lehigh Valley Railroad Company.

French machine gallery the merchants prosecute their callings with an earnestness that is terrible.

Julian Turgan, who had so much to do with the inception of the Exhibition, in the beginning of a volume just published by Calmann-Levy, recounts some personal reminiscences concerning its origin that are extremely interesting. His interview with Victor Hugo is one of the best chapters. What happened is characteristic of the great poet of Guernsey. He writes: "Obliged to make a journey in Midi; I departed content to see my project warnaly seconded by the journal La France. I did not think its realization could come so soon nor be so brilliant. I understood the nature of great men well enough to know how imparts the seribable confusion and chaos. A walk parted content to see my project warnaly seconded by the journal La France. I did not think its realization could come so soon nor be so brilliant. I understood the nature of great men well enough to know how imparts the seribable confusion and chaos. A walk parted content to see my project warnaly seconded by the journal La France. I did not think its realization could come so soon nor be so brilliant. I understood the nature of great men well enough to know how imparts the seribable confusion and chaos. A walk through the alimentary hall that runs at the side of the machinery department, is still more disheartening. If it were not for one or two coarsely boarded partition walls the gallery would seem like a bowling alley. As

of friends whom I met did not seem to compass the grandeur and magnificence of the work. Those who found the idea a good one thought it premature.

"The happy thought came to me to go to Victor Hugo. It was 26 years since I had seen him. But he seemed to me to be one who could grasp my meaning. Victor Hugo could not receive me. The Senate called him to Versailles, and the political difficulties of that troublous epoch took up all of his time. I received, however, from him the following letter:

"Versailles, 10 March."

"The museum project gains strength every day, and as it develops promises to preserve about everything on the Champ de Mars except the Pavilion of the city of Paris. The papers say that the famous Avenue of the Nations, with its gaunt façades will be left intact. If this be true, then another monument will be added to the already long list that places Paris near the head in the tourist's list of European cities.

I told you a week or two ago of the grand final testimonial fever. Since writing that letter Mr. Thomas R. Pickering, the

that letter Mr. Thomas R. Pickering, the superintendent of the United States masuperintendent of the United States machinery section, has been presented with a piece of bronze that Tiffany & Cc. selected from the Fronch section. Mr. Theo. Bergner made a speech in behalf of the exhibitors, thanking him "for the many good and tried qualities" that he showed in the adminsitration of the position of superintendent of the machinery and agricultural department. "We have been taking lessons," said Mr. Pickering in his speech of acknowledgment. "We have made many mistakes at this Exhibition; we have graduated, and with honors. Never has a nation of exhibitors fared better in regard to awards, business transactions, and prospects for future trade, and never has a commission had more reason to feel proud of its exhibitors, more reason to feel proud of its exhibitors, its exhibits, and of the part it has taken in an exhibition than has the United States

erty will be sold. The company does not owe anything for wages and very little for supplies, and hence no loss is likely to fall upon business creditors. The greatest loss will be to the workmen, who, with winter upon them, have deliberately driven from their locality a monthly disbursement of nearly \$20,000. The company, whose offices are in Mauch Chunk, was organized in 1873, and has given employment to 400 men.—M.

the flint glass manufacturers of Pittsburgh and the workmen. The employers resolutely adhere to their determination to resume adhere to their determination to resume operations only upon unconditional submission to the terms proposed by them, while the workers seem equally firm in their refusal to yield. The hope has been indulged that the "lock-out" would not extend beyond the close of the holidays, or dulged that the "lock-out" would not extend beyond the close of the holidays, or that the first week in the new year would witness the starting up of the eleven factories now idle, but inquiry by our reporter among those best informed in the matter does not justify such anticipation. On the contrary, there is a probability of the situation being aggravated by the manufacturers deciding to insist upon a reduction in wages to the extent of 12½ per cent. This is under consideration by them, and while no conclusion has been reached or formal expression given, a number of them were free to say that if the stoppage was prolonged over a period of months such reduction would undoubtedly be insisted upon.

Nearly all the collieries owned and operated by the Philadelphia and Reading Coal and Iron Company resumed work Monday morning, the 9th inst., with prospects that it will continue until Christmas, probably to the New Year. It is rumored that the miners in the employ of the Philadelphia and Reading Company have agreed to demand wages on the \$2.50 basis, and no sliding scale. If this be so, it means a strike all along the line in the near future.

The Hazel Dell Colliery, which has been hitherto worked by G. M. Provost, and the product shipped by the Philadelphia and Reading Railroad, was last week sold to the Lehigh Valley Coal Company, and the product in future will be added to the tonnage of the Lehigh Valley Railroad Company.

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SOLE MANUFACTURER OF

# LYON'S PATENT METALLIC HEEL STIFFENERS

Albany, N. Y.

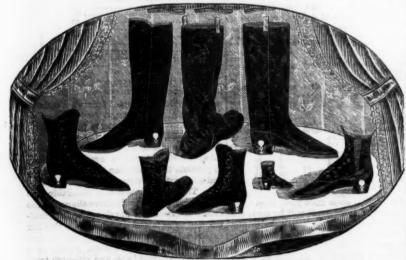


Old Boots and Shoes can be Straightened August 1, 1876.

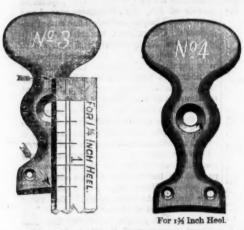
NEW ONES KEPT STRAIGHT

### LYON'S PATENT METALLIC HEEL STIFFENER.

These can be applied to any Boot or Shoe at any time by any one.



Every Pair is warranted to bend to fit the boot without breaking.



All Boxes must be marked, Manufactured only by NELSON LYON, Albany, N. Y., under Patents of July 9, 1872, May 18, 1875, July 11, 1876.

ROBINSON &

Send for Catalogue.

A. S. ROBINSON.

CO.,



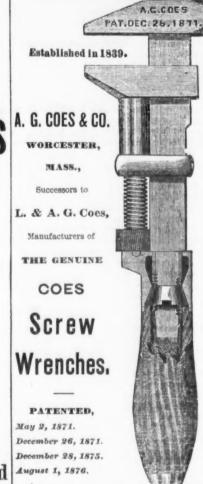
SOLE MANUFACTURERS OF THE VICTORY **Combined Snow Shovel** and Ice Pick.

Albany, N. Y.,

Manufactured under Patents of July 10th, 1877. May 7th, 1878.

As seen in the accompanying cut, the handle can be taken from the blade by throwing back the cam lever which holds it. On the end of the handle there is a steel point which makes a good Ice

Catalogue sent on application.



The back strain when the wrench is used is borne by the bar—not by the handle.

The strongest Wrench made, and the only suc-

essful Re-enforced Bar.

None genuine unless stamped

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Our Agents, GRAHAM & HAINES, 113 Chambers St., New York, carry a full line of our goods, and will be pleased to serve you at factory prices.



N. Y. MALLET and HANDLE WORKS

Manufacturers of Calkers', Carpenters', Stone Cutters' Tin, Copper and Boller Makers' MALLETS.

Hawsing Beetles, Hawsing and Calking Irons; lso all kinds of Handles, Siedge, Chisel and Ham-ner Handles. Also COTTON AND BALE HOOKS, Patented Feb. 13, 1877; a new combination of Hooks. 456 E. Houston St., New York City.

THE PRATT & WHITNEY CO.,

Hartford, Conn., U. S. A., Make specialties of

DROP HAMMERS,

aching Presses, Hand Drilling Machines, Ratchet

Drills, Combination Lathe Chucks, Cutters for Teeth of Gear Wheels, Screw Plates, Hand, Machine, Nut and Pipe Taps, Bolt Cutters, &c., &c.

R. COOK & SONS, Manufacturers of

Carriage & Wagon AXLES, WINSTED, CONN.

ESTABLISHED 1839.

W. & J. TIEBOUT.

Manufacturers of

Brass, Galvanized & Ship patented a vessel propelled by the direct action of steam on water, which has been called the Chandlery Hardware,

Scientific and Technical Notes.

Zinc is generally used for producing hydroen on a large scale, but recently a

NEW METHOD OF MAKING HYDROGEN has been suggested by Dr. Kollmann of the Berlin School of Mines. He states that the gas can be easily produced and at a lower price from ferromanganese by treating it with sulphuric acid.

Messrs. Fouqué and Levy, in a communication to the French Academy of Sciences, state that they have been successful in

MAKING FELDSPAR CRYSTALS ARTIFICIALLY, the varieties crystallized being oligoclase,

the steamship Flying Sylph serving for the trial. The apparatus, known as the Archimedean revolving brushes, is the invention of Mr. Cutlan of London. It is self-acting, being worked by a screw, the revolutions of which are regulated by the speed of the vessel. A line is rove through a block at the martingale end and fastened to the machine. Another line from each side is attached and Another line from each side is attached and Another line from each side is attached, and having been lowered under the vessel's fore-foot, is hauled from the keel to the water's toot, is hauled from the keel to the water's edge. In this way each side of the ship is overtaken in sections. The brushes are made right and left, so as to strike the vessel with the current and clean away all grass and alime without injuring the paint. A correspondent of Engineering states that the trial was highly successful, and was pronunced years satisfactory, by many ship nounced very satisfactory by many ship

It is stated that the best method of GIVING TIN PLATE A HIGH POLISH

in the process of manufacture is to cool the plate rapidly, by means of a current of cold air at the moment when the plate is drawn out of the tin-bath.

P. Schützenberger has published in the Comptes Rendus his researches on the

CHEMICAL COMPOSITION OF WOOL, according to which its formula would be:

C\*\*50 H\*\*51 N\*\*0 O\*\*\* S\*.

Fr. Koepe, of the Hanover coal mine, at Bochum, Germany, is the inventor of an IMPROVED HOISTING PLANT

for mines, founded upon the happy thought for mines, founded upon the happy thought of replacing the two hoisting drums with its two separate ropes by a single sheave with one wire. The circumference of this sheave, which is much cheaper than the ordinary hoisting drums, is provided with a wedge-shaped groove lined with wood or leather. The weight of the two hoisting cages above will suffice to prevent slipping. The machine may either be placed directly above the shaft or it may be put up beside it. By the arrangement cited one-half of the length of rope is saved and any overit. By the arrangement cited one-half of the length of rope is saved and any over-winding becomes impossible, because when one cage is at the pit's mouth the second rests upon the bottom of the shaft, and any further winding would tend to make the rope in the shaft slack, which the counter-weight of the cage rapidly puts an end to. If a rope is attached to the bottoms of the two cages and run over a pulley at the bottom of the shaft, complete counter-balancing of the weight of the rope is effected.

The Fortschritte der Zeit gives the follow-

ing solutions for

STAINING WOOD.

Wood may be stained brown by a concenwood may be stained brown by a concentrated aqueous solution of permanganate of potash. Red.—Boil ¼ lb. of logwood and ½ oz. of soda in 1 pt. of water; apply it hot, and then wash it over with a strong aqueous solution of alum. Rose.—Iodide of potash solution of alum. Rose.—Iodide of potash in 12 parts of water for a first coat, and corrosive sublimate in 40 parts of water for a second. Rlue.—Indigo solution, or a concentrated hot solution of blue vitriol, followed by a dip in a solution of washing soda. Yellow.—Turmeric, dissolved in wood naphtha, or aqua regia in 3 parts of water. Green.—Verdigris, dissolved in 4 parts of water.

A pump, which seems to have been working for almost two years successfully, has been described recently by Chiazzari, of the

been described recently by Chiazzari, of the Alta Italia Railway. It is used for

FEEDING LOCOMOTIVE BOILERS WITH HOT WATER

heated to within a few degrees of the boiling heated to within a few degrees of the boiling point. It consists in bringing the feed-water in a finely divided spray into contact with a portion of the exhaust steam during its pass-age through the feed-pump, and of an auto-matic arrangement for shutting off the supply from the tender the moment the regulator is closed, thus preventing the admission of cold water to the boiler.

Prof. Palmieri, of Naples, has constructed an apparatus for

TESTING THE PURITY OF OILS

by means of the resistance which they offer to the passage of electricity. He takes clive oil, the poorest conductor of all, as a stan-dard of comparison. It is stated that the apparatus may also serve to reveal cotton in silk fabrics, because small amounts of the former in the latter greatly increase the

water holders with outflow pipes, which open outside, partly backward, partly sidewise and forward. From these holders the water is alternately forced by steam, the entrance of which is automatically regulated by means of floats. When a holder is emptied the steam admission valve is closed, and an the steam admission valve is closed, and an outlet valve opening lets the steam present into a condenser. Through the consequent rarefaction water is drawn into the vessel, which, by its float, again opens the steam admission valve and the process begins afresh. The two holders work alternately, but independently of each other. The water forced out backward drives the vessel forward with a whether the water than the steam of the s the varieties crystallized being oligoclase, labrador and albite. The process consists in fusing the feldspar in a platinum crucible placed in a Schlesing furnace, then placing the button before a Bunsen burner, which keeps it for eight hours at a temperature slightly below that of fusion. Under the influence of that sort of annealing the vitreous mass changes in structure and crystallizes with all the details of form of natural minerals. crystallizes with all the details of form of natural minerals.

An interesting experiment was recently made at Glasgow in

CLEANING THE BOTTOMS OF IRON VESSELS, the steamship Flying Sylph serving for the steamship Flying Sylph serving for the trial. The apparatus, known as the Archi-

which is specially applicable to substances which, in the pure state, are not volatile without decomposition. In studying the distillation of liquids which cannot be mixed with water, by a current of aqueous vapor at constant boiling temperature, he has found that the quantities of two liquids passed in distillation and estimated in molecular weights, are in the same ratio to each other as the tensions of vapor of these liquids means. as the tensions of vapor of these liquids measured at the constant temperature at which distillation is effected.

Modern industry has become so specializing that for various uses the

COMPOSITION OF BRONZES FOR MACHINERY is made to vary to meet the requirements of each special case. In the following we give the composition of these alloys as used by prominent French departments:

French Marine.

Tough bronze for rods, valves, cock, &c. 28
Very tough bronze for eccentric straps, &c. 9c
Bronze for plummer blocks. 9c
Hard bronze. 84
Very hard bronze for sheave brass cocks. cocks
Bell bronze
Anti-friction bronze (with 8 parts French Railroads. Car pillows.
Locomotive and tender oil boxes...
" slide valves....

The bronze composed of 86 copper, 14 tin and 2 zinc is least porous, and therefore is most suitable when pressure is to be resisted.

At the late meeting of the British Association, Mr. W. Willis read a paper describing a method for making

PHOTOGRAPHIC PLATINUM PRINTS UPON

PAPER, in the shape of an impalpable powder, in which its color is intensely black. As platinum, even in this state, resists atmospheric influences, photographs so made would be unalterable. His method consists of coating paper with a mixture of oxalate of iron and chloride of potassium and platinum, which, after being dried, is exposed to light under a negative. After it has had a sufficient exposure it is floated on a hot solution of oxalate of potassa and a platinum salt. of exalate of potassa and a platinum salt. This immediately develops the picture. After washing with water and drying, the print is finished.

A simple contrivance for

CONVERTING COMMON SHELLS INTO INCEN-DIARY PROJECTILES.

has been successfully tried at the Woolwich Arsenal. The shell is charged with pieces of port-fire or star composition rod, each piece about 3 inches in length, and gunpowder is then poured in to fill up the interstices and form the bursting charge. On being fired into a building or into the midst of an ammunition train the charge is ignited by a time or percussion fuse, and the shell by a time or percussion fuse, and the shell not only bursts into a hundred fragments, scattered in all directions, but distributes scattered in all directions, but distributes more than a hundred flaming port-fires, each burning fiercely for a sufficient time to ignite any inflammable object with which it may come in contact. The ordinary field-gun projectiles have been used in this way as well as the high-flying shells of the 6.3-inch howitzer, and both have answered well.

QUICKLIME AS A PRESERVATIVE OF TIMBER.

He puts railroad sleepers, for instance, into he puts railroad sleepers, for instance, into pits and covers them with quicklime, which is slowly slaked with water. Timber for mines must be left for eight days before it is completely impregnated. It becomes extremely hard and tough and is said never to rot. Beechwood, prepared in the same manner, has been used in several iron works for heaveners and other tools, and in several.

manner, has been used in several iron works for hammers and other tools, and is reputed to be as hard as iron, without losing the elasticity peculiar to it. According to the Kurze Berichte, lime slaked in a solution of chloride of calcium is used at Strassburg as a fire-proof and weather-proof coating for

commed to be

THE LARGEST MAGNET IN EXISTENCE.

It is a Faraday electro-magnet, the coils of which have a diameter of 10.7 inches and a hight of 23.6 inches. The total weight is 2103.6 pounds. The helices are made up of numerous parallel and separately-insulated wires, in order to facilitate different combinations, both in tension and in quality.

A German—Mr. Fleischen, of Dessau—has patented a vessel propelled by the direct accion of steam on water, which is a collected as a coll

called the

HYDROMOTOR.

According to the English Mechanic the apparatus consists mainly of two steam-tight

as a thing accomplished in that country by Messrs. Jones, Dale & Co. Strips and sheets are made of it which, it is claimed, do very well for wrapping steam pipes.

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### The Iron Age

#### Metallurgical Review.

New York, Thursday, December 19, 1878.

. . Publisher and Proprietos DAVID WILLIAMS JAMES C. EAYLES -JOHN S. KING . . . . Bunness Manager

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Thirty-third Page .- Boston and St. Louis Hardware and Metal Prices.

Our readers will remember the mission of a French gentleman to this country last chance for such a war without the prospect summer to create a sentiment in favor of a treaty of commerce and the meetings held the public debt. Consequently the idea of in its interest at the Paris Exposition. By reciprocity is gaining ground, and the naauthority of the French government a series of meetings are being held all over France to promote this treaty, and if addresses and rious alarm. resolutions could have made it an accomplished fact the treaty would have been ratified months ago. But it has not yet been made to appear what we are to gain by such to use an old simile, is like the handle of a

treaty as being prejudicial to the agricultural interests of that State. We repeat the tariff. They have figured up how much the statement that we have so often made, the coat on his back and the shoes on his that the tariff sentiment of the country was | feet were increased in price by the tariff, tariff, New England, for example, free trade consumer. Protectionists, on the other may have become more popular, but in the hand, have insisted that while for a time West, in the agricultural region, where the free-trade sentiment has popularly been supmitment of that State to protection, since if she expects the duties to be retained English contemporary abandons the freeon wines, brandies, rasins, raw silks, &c., trade and adopts the protectionist argument. she must be willing to join hands with other sections to protect their industries.

#### The Reciprocity Idea in England.

Human experience is continually verify ing the proverb which has long passed cur rent in police circles-"The things least expected are the ones most likely to happen." We were forcibly reminded of this by reading in the editorial columns of our valued English contemporary, Ironmonger, of Nov. 23d, an article entitled, "Free Trade and Reciprocity." That so starch and consistent an advocate of broad principles" should bave so far fallen from politico-economic grace as to concede that free trade can be a failure under any conceivable conditions, is certainly to be classed among the unexpected happenings. The Ironmonger is not a journal of radical tendencies. It has always been careful to represent, rather than ambi tious to shape, the opinions of its large and influential constituency, and when we find it changing front on the question of free trade and boldly advocating the abandonment of the commercial policy which British economists have proclaimed to be the basis of British industrial and commercial greatnoss, we feel warranted in concluding that the Ironmonger is only giving expression to the opinion of a respectable proportion of those whom it represents with such conscientious fidelity.

We are not inclined to make ourselves disagreeable to our English readers by cry-'I told you so;" but it is well to reing. member at this time that the intelligent de fenders of protection have always insisted that the British nation adhered to free trade not because it was a matter of principle, but because it was believed to be in the largest degree conducive to the industrial and commercial interests of the nation, and that as soon as it was found that protection was likely to be more profitable than free trade, it would be demanded by the people and con-ceded by the government. It was not to be expected, however, that such a change would be brought about suddenly, or that those who shape and direct public opinion in such matters would step from one extreme to the other. The strongly conservative tendency of British thought would not permi such a change of base, and those who honestly believe that free trade is a failure and protection a necessity, have been shrewd enough to stop at the half-way house of reciprocity. There is a deal of worldly wisdom in this policy which is highly commendable. It accomplishes its object without arousing any very vigorous opposition. The argument may be briefly paraphrased thus: Of course free trade is the only natural and legitimate basis for international commercial relations, and the nations which have departed from this faith and sought to develop and diversify their industries by protecting them, are fools. At the same time we have to deal with the uncomfortable fact that in our adherence to sound views of political economy we stand alone. The markets of the world are closed against our manufactures by tariffs, while our markets are open to all the world. This gives other nations an unfair advantage. Unfortunately we are not in a position to treat them as we treated China a few years ago, and our protests have passed unheeded. Let us show them the value of free trade by adopting a policy of retaliation, imposing a protective tariff on all classes of imports, and then making exceptions in favor of those nations which are willing to negotiate with us for reciprocity. In this way we shall punish their folly and in a few years force them to return to the true faith and open their markets to us in exchange for like privileges in our markets.

Thus presented, the argument is very specious and takes well with all classes The British people have never been averse to "wars of the yard-stick," and here is a of bloodshed or any considerable increase in tion is steadily drifting in a direction which must occasion the apostles of free trade se-

In the case of the Ironmonger we do not discover any disposition to advocate protection as a principle, but it is interesting to note how, almost unconsciously, it abandons a treaty. What equivalent is to be offered for to the enemy some of the strongholds of the the removal of duties on the production of free-trade argument and turns its guns upon that country sent to us? The reciprocity, the popular convictions and prejudices which the advocates of protection are seeking to jug-all on one side. The advocates of the batter down. For example, no argument can manufacture some things as cheap as scheme seem to think that they have only has been oftener or more persistently urged they do in England, to remove our tariff to gain the consent of the French people to by free traders than that a tariff is a tax on and permit free trade in these articles. it, but they will soon discover their mistake. the consumer. The changes that have been don't propose that this country shall be made The California Constitutional Convention is rung on this idea are innumerable. Orators a dumping ground for English manufacthe first representative body to take formal in England at the hustings and orators tures, and our tariff is a notice not to place

burdens he was forced to carry by reason of never stronger than it is to-day. In some and have conclusively proved to their own sections which owe their prosperity to the satisfaction that the tariff was a tax on the the result of a tariff might be to somewhat increase the cost of goods to the consumer, in posed to be the strongest, protection is gain- the end it cheapened them, and finally that ing ground every day, and this action of the tariff was a tax paid by the producer; the California Convention is a virtual com- that is, if England sent her manufactures to us she must pay the duty. See how our It says: "We alone of all the great countries remain steadfast and rigid adherents to the broad principles of free trade, charging but few import duties on any kind of foreign produce, yet content, as a nation, to pay for almost every article we consign to ports other than our own." Under the new dispensation it seems that Great Britain

pays the duties, or at least part of them. The most refreshing portion of this article is an extract from a letter of Mr. David MacIver, of the Cunard line. Mr. MacIver is a "reciprocist," and the scheme which he and those who think with him propose was given in our English letter last week. The Ironmonger commenting on this scheme says: "Supporting the views thus enunciated, Mr. MacIver makes use of plain and forcible language in stating his case -or rather that of the reciprocity theory He believes that the foreign colonial tariffs, if continued long enough, are not merely injurious to our home industries, but will come to mean the absolute extinction-so far as manu factures are concerned—of our export trade." If Mr. MacIver means that so far as a protectionist nation is concerned England's export trade to that nation of articles it can manufacture will be stopped, he is right. and that has been the protection argument all along. We quote further: "Beginning with this startling assumption, Mr. Mac Iver goes on to say that he does not think that foreign nations or our colonies are likely to modify those tariffs to our advantage, believing, as he says he does, that not only are the protectionist nations not such fools as British political economists would assume them to be, but that they are perfectly able to judge, without our assistance, whether free trade does or does not suit them." We should hardly expect an Englishman to make this acknowledgment. England has proceeded on the sumption, so far as this country is concerned, that we were densely ignorant of economic principles, and has regarded it as her duty to try to educate us to a fuller knowledge and a clearer understanding of

these principles. Whether retaliatory tariffs are the best thing for England, is a matter for her to de cide for herself. That they are less defen sible than protective tariffs is no argument against them. If England chooses to favor one nation and discriminate against another she has the right to do so, and the result of this policy she must be prepared to accept In fact, this question of free trade or protect tion is a national one, not international; but when it comes to abandoning the principle of what is known in the treaties of commerce as the "most favored nation clause, and adopting as a principle this retaliatory idea, we think it will be found neither so wise nor pleasant as to adopt a straightforward tariff which shall be equal to all omers on the same article. Still, if England chooses retaliation we have no cause or right to complain. It will be interesting to study as effects on the price of breadstuffs, dairy products, meats and petroleum, which form the bulk of our exports to England. Probably she will class them as raw materials, and enter them duty free or at nomina rates. If so, her retaliation will not amount to much so far as we are concerned: if not. it will amount to a good deal as affecting some millions of her own people, who can just now ill afford to have anything come between them and the foreign food supplies upon which they are largely and necessarily dependent.

One would hardly expect to find good tariff arguments in the columns of the Springfield Republican. It is a journal that pelieves in political economy according to Adam Smith and Prof. Perry, and, consequently, that "broad principles" should always govern rather than a consideration of what for the time being is best. The paper makers of Berkshire, however, act for the present, and not on "broad principles." The Republican states: "All of the paper men will go in for keeping up a good stiff tariff on paper, not because they cannot actually afford to make paper cheaper than foreigners, and a superior article, but for fear that England will rush her surplus stock over here, if a reduction is made, at prices which will prove ruinous to the home trade." "Broad principles would not conform to any such selfish considerations as these, but would let England rush in her surplus stock. This statement contains the gist of the reasons why protectionists are not ready, notwithstanding we action, and they have adopted a memorial in this country on the stump, have por- any dirt (taking Lord Palmerston's definito the President and Congress against the trayed to the honest voter the oppressive tion) on this lot under penalty of the law.

#### Fluctuations in Brazilian Trade.

Brazil is one of the few countries in tropical America in a tolerably flourishing con dition at the present moment. Most of the others are either just emerging from general political and financial difficulties or are beset with them. Brazil, therefore, deservedly attracts particular attention. Under date of Oct. 4, 1877, we published an article entitled "Our Brazilian Trade;" since then we have procured later official trade statistics from Rio, enabling us to throw some further light on the commercial relations between that country and the rest of the world, particulary England. Adding there to the American statistics, we shall be able to draw some interesting comparisons and onclusions.

The statistics we have examined show that the trade movement of Brazil for the fiscal years named below has been as follows, reducing everything to thousands of dollars and including specie:

Export.

91,801 The following were the principal articles exported and the aggregate value of each 1874-75. Paraguay tea (Mate)... 739 5,942 3,826 5,057 38 Other goods, specie. 5,401 91,801 We have not the total statistics of Brazil for 1876-77, but for Rio only, which may be

summarized thus : Trade Movement of Rio de Janeiro

Import. Import. .\$17,279,695 .8,770,680 .3,148,310 .3,428,380 .3,289,780 .11,062,485 ther countries 7,442,110 Total.... 46,979,330 50,650,430

therefore been nearly eight times as much as the import, and while 70 per cent. of the import has been drawn from four countries in Europe, the United States took nearly one-half of the entire exports of the port.

The export to the United States has

In the trade between Brazil and England a great change has taken place since 1871, and as England is our greatest competitor in the empire, it will be useful to investigate this change.

The export to England has fallen off in

a striking mann					
reduced to thousa	ands o	of doll	ars, v	vill sh	ow:
	1872.	1873.	x874.	1875.	1876.
Cotton	23,650	14,259	13,759	11,730	7,486
Sugar	11,348	10,413	8,711	11,528	6,102
Palm oil	213	92		34	7
Cocoa	196	103	68	104	219
Coffee	2,777	2,995	4,481	4,807	4,057
Nuts and kernels.	42	128	217	337	155
Isinglass	61	48	.75	64	81
Hides	2,152	2,622	2,622	3,008	1,487
Horsehair	56	43	15	40	34
Drugs		47	96	150	
Dyes		18	15	24	16
Farina		45	23	20	24
Tobacco		13	31	36	
India-rubber		4,746	3,601	5,076	4,699
Wool	14	,21	8	83	31
Cabinet woods		169	24	98	50
Bone	425	273	205	230	
Brazilwood		9	5	II	8
Calfskins				87	189
Horns		31	31	20	33
Tallow	121	339		20	
Other goods	900	512	918	605	821

.. 47,250 37,000 35,014 37,092 25,893 The greatest decrease, it will be seen, has een in cotton, some in sugar, hides and bone, while coffee has increased and Indiarubber has been steady.

The export trade from England to Brazil has been declining rapidly, particularly in iron, railroad material, telegraph wire, &c. The following table shows this fully, the amounts being in thousands of dollars : EXPORT FROM GREAT BRITAIN TO BRAZIL

English-Made

1872. 1873. 1874. 1875. 17,956 15,289 15,576 17,494 707 294 441 391 177 171 147 108 1,640 2,38 1,983 1,468 455 392 504 326 205 134 110 78 goods. Cotton goods. 98 375 748 201 114 342 820 178 138 331 802 198 1,418 2,516 338 373 2,355 1,042 1,286 2,435 55 334 2,223 836 1,042 443 1,042 175 146 354 173 Paints and var

217 203 209 210 101 199 200 162 2,227 2,038 2,190 2,235 x,311 x,660 x,838 x,615 x,583 38,910 39,383 40,230 35,862 31,182 TOTAL TRADE RETWEEN BRAZIL AND ENGLAND 1872. 1873. 1874. 1875. 1876. Export to England 47,250 37,000 35,014 37,000 25,893 Imp't from Engl'd 38,910 39,383 40,230 35,862 31,182

.. 86,160 76,383 75,244 72,954 57,075 While the United States is Brazil's most valuable customer for its products, that country as yet takes comparatively little This is, however, undergoing from here. a favorable change now that a regular steam service under our own flag has been re-established since the beginning of May.

The following table shows our export of domestic products to Brazil during two concontino fiscal veers :

									1	•													1826.
Agricult	u	u	'n	ú	l	iı	m	1	p	l	ð	n	a	0	I	1	h	8			,		\$9,862
Blacking	ţ		. ,								. ,		. ,		. ,			*	*	,			12,377
Books	. ,					. ,		. ,		, ,	. ,									*			58,845
Biscuit																							26,716
Corn																	,			٠	*	6	31,484
																							3,871,189
Maizena								,			*			*	*		,	. ,					9,900
Brooms.																							4,335
Candles.																							5,979
Carriage	8	١.						*						*	,	*	,	,		,			10,012
Railroad	1	QI	À	ľ	ÿ						4			×	0						•		26,084

Clocks	28,252	36,426
Coal	9,895	*****
Cordage	3,675	3,836
Cotton goods	585,299	565,631
Drugs	152,847	120,023
Fancy goods	3,193	422
Apples	6,908	2,826
Ganned preserves	1,390	73
Glassware	6,107	7,599
Cables	5,457	4.799
Ice	9,050	5,900
India rubber manufactures	6,154	4,784
Rails.	2,350	32,929
Castings	11,416	4,240
Car wheels	4,361	10,951
Locomotives	193,500	350,250
Machinery	86,582	177.334
Nails and Spikes	9,125	5,146
Other iron manufactures	69,615	58,689
Cutlery	13,492	14,449
Edge tools	61,282	65,952
Muskets, &c	3,282	1,249
Lamps Boots and Shoes	11,191	24,078
Saddlery	7,175	3,238 6,826
Matches	9,734	9,048
Scientific instruments	8,287	9,040
Musical	6,759	16,607
Naval stores	33,542	51,508
Petroleum	498,294	900,025
Lubricating oil	1,539	538
Linseed oil	1,460	15
Cartridges	1,500	2,214
Paints	1,166	928
Paintings, &c	72,755	19,172
Paper	51,203	21,001
Perfumery	45,418	31,520
Plated ware	2,532	18,824
Printing presses	8,177	10,474
Bacon	3,586	341
Beef	1,643	665
Butter Condensed milk	1,617	852
Condensed milk	5,134	2,495
Fish	3,544	850
Lard	743,073	567,221
Preserved oysters	3,417	1,841
Pork Sewing machines	5,100	2,396
Soap	29,483	21,158
Spirits of turpentine	19,077	8,718
Fire engines	18,500	30,189 6,630
Refined sugar	3,793	
TinWare	2,431	2016
Manufactured tobacco	9,087	2,946
Trunks	2,189	2,164
Clothing	1,875	18,062
Boards	212,597	238,920
Shooks		1,960
Poles	5,932	734
Timber	7,577	1.75c
Furniture	17,123	32,132
Wooden ware	34,721	14,004
Other goods	18,868	56,040

Total ... .....\$7,253,218 \$\$7,408,118 The principal increase, it will be seen, has been in locomotives, machinery, lamps, petroum, plated ware, naval stores and furniture Including specie, our trade with Brazil during the past twenty-one years has been

																			1	ľ	n	port.	EXLO	e
1858											,												5	
1859	 																		. ,			22	6	
1860												,				*		*				31	6	
1861	 						*						*		×				.,			18	5	
1862																						13	4	
1863																							5 5	
1864																						14	5	
1865									*											*		10	6	
1866																						17	6	
1867																						19	5	
1868																							6	
1869																							6	
1870																							6	
1871																							6	
1872																							6	
1873																						38	7	
1874																						44	7 8 8	
1875																							8	
1876																							7	
1877																							7	
1878			٠		*		*	*		+						*				٠		43	9	

Total..... 550 Total net import, \$550,000,000; total domestic export, \$129,000,000. In other words, we have imported from that country during the period named more than four times the amount of our domestic export. Since the Centennial and the visit of the

Emperor to this country, the Brazilians have

taken a lively interest in everything likely to promote trade between the two countries. and this has been vigorously reciprocated by The establishment of a steamship line and the increase of trade above shown are the result of the energy developed in this matter, and there is now every prospect that our export to that country will attain satisfactory proportions in the near future. Agents have en sent out from here, and although some mistakes may have been made in correctly estimating the real wants of the population outside of Rio, the advantages reaped and to be reaped largely outweigh the cost of experience. Our railroad material, especially locomotives, our machinery and tools, and to some extent our dry goods, are becoming very popular in the empire. Large amounts of flour and petroleum are shipped thither this year, and there is every encouragement to stimulate further efforts.

Brazil, it is true, has in some provinces been suffering most severely from the prolonged drought which for a time has been a severe infliction over a large tract of country on the east coast of South America. Some local financial difficulties through over-ex pansion in banking have been added, and the colossal Maua Bank was a short time since forced into bankruptcy. But these evils are of a local character and are but temporary. A country possessing the vast natural resources of Brazil, under a wise and conservative government not subject to revolution, recovers rapidly. Brazil is therefore a country whose requirements our manufacturers will do well to study closely, and we feel convinced that most desirable connections may be formed, capable of almost indefinite expansion, if we will be content with moderate profits.

The recent destruction of the Anchor Flouring Mill at Minneapolis is of interest as showing quite conclusively that mill dust is nearly, if not quite, as dangerous as fire-damp. About 8 o'clock in the evening of December 9th, a miller in charge of a pertion of the machinery discovered that one of the elevators which conducted flour from the lower basement of the mills to the middlings purifiers in the upper story was clogged. He went to the basement to start the elevator, carrying a lantern, which he set down 15 feet away, but in front of the opening of the elevator. Having removed the obstruction he started the elevator, when a mass of flour became dislodged and 4.506 fell in a cloud. This caused a puff of flour-dust from the open door of the elevator, which reached the lantern, when at once there was a great flash of flame, which spread from floor to floor and filled the whole building.

#### Two Government Rolling Mills.

The annual report of W. H. Shook, Naval Engineer in Chief, contains the following significant paragraph:

There is in course of gradual construction at the Washington yard a rolling mill of moderate size and its motive engines, for the Mare Island Navy Yard. The very satisfactory results obtained from the use of the one recently built at the Washington yard leave no doubt as to the great saving in the annual outlay for bar iron for naval

This is a matter which merits the attention of the House Committee on Naval Affairs. Assuming that the gentlemen of our Navy Department have the authority to spend public money in building rolling mills, it is a piece of insane folly to do so, and the result cannot fail to be in a very serious degree detrimental to the public interest. There is no more reason why the government should build rolling mills than there is that it should work ore and coal mines and build blast furnaces. If the engineers of the Navy Department could not get iron of any desired quality and in any desired shape a great deal cheaper and better than they can find with them for constructing and maintaining rolling mills at Mare's Island and Washington; but if they are laboring under this delusion it is only because they are ignorant of what is going on outside of their own little sphere of alleged usefulness, and so wrapped up in self-conceit that they have no consciousness of the existence of any knowledge greater or more comprehensive than they claim to possess. We do not believe that the government, any more than the individual, should always buy where it can buy the cheapest; but we affirm, without fear of intelligent contradiction, that so long as the government can buy iron both cheaper and better than it can make it, the construction and maintenance of government rolling mills at our navy yards is a shameful misappropriation of public money, as well as one not authorized by law. country is already so well supplied with rolling mills that all of them now in operation cannot find profitable employment. Many of these mills are under the direction of men who have devoted their lives to the study of every problem connected with the production of wrought iron and its formation into shapes. Any one of these accom-plished rolling mill managers knows more about iron and how to roll it than all the engineers of the Navy Department together, and can supply the wants of the government at a price far below that at which the work can be done under the liberal system of divided irresponsibility which prevails in our navy yards. It is simply impossible for the government to do its own work under any practicable system as well as it can be by individuals or private corporations, who have given close and intelligent attention to the economies of manufacturing, and have learned during years of experience nearly everything which the navy engineers will have to find out by costly experiment. It is such needless leaks as these which should be stopped in the interest of true economy, and we hope the ironmasters of the country, through the American Iron and Steel Association, will see to it that Congress is fully informed on this subject. The less manufacturing the government does the better for the taxpavers; and if the costly and unnecessary luxury of navy yards was abolished altogether, the government could provide itself with more and better ships than it now has for a good deal less money than it now spends. Government competition with private enterprise is contrary to the spirit of republican institutions, and in the case under consideration contrary to

policy is taking in Germany in regard to a reimposition of duties upon iron and steel and goods manufactured therefrom. In accordance with a law passed at the close of the year 1875, the duties on iron were abolished after the 1st of January, 1877, and now, scarcely two years after the operation of the new law, it is to be abandoned. A commission is sitting at Cassel to examine the pres ent condition and future prospects of the German iron and steel trade, and to hear the evidence of delegates sent to the various iron and steel producing countries. There is a strong feeling that the decision of this mmission of the Reichstag, which it is thought will shape future measures, will be in favor of protection, especially as Prince Bismarck has been understood to advocate that ourse. There is certainly no doubt that some branches of German industry must go to the wall unless they receive assistance, notably the manufacture of foundry pig, so that the tender regards of English ironmasers for German consumers of foundry iron pointing to the increased cost of raw material to them, may be easily understood. ferman steel manufacturers have been taking strong efforts to gain a footing in the export trade, and it is stated that to do this they have sustained losses which they were forced to counterbalance by increased profits at home. Yet the English say they ask for a duty with which undoubtedly they while secure in the possession of the home subject to the influence of false reports and been permitted to fall into a comatose condi-

the teachings of common sense.

market. The question assumes very interesting phases, which we shall watch carefully. As matters look now, there seems to be every prospect of another market being closed upon England, while yet another rival appears to contest her supremacy abroad.

In our summary of the proceedings of the meeting of the American Institute of Mining Engineers at Port Henry, we referred briefly to Dr. Dudley's papers, embodying his researches on the conditions affecting the life of steel rails, with the promise to present abstracts to our readers at an early opportunity. Elsewhere will be found a summary of Dr. Dudley's first and larger contribu-"On the Chemical Composition and Physical Properties of Steel Rails," which we commend to all interested as a lucid exposition of the main features affecting the wearing power of rails. In his estimation of the relative hardening effect of phos phorus, silicon, carbon and manganese, Dr. Dudley has boldly cut the knot. This reduction of the varying amounts of hardness to phosphorus units" has certainly furnished him with figures which are suggestive, and if borne out by future examinations, will be valuable indicators. Dr. Dudley's conclusions are just and fair, and his recommendations warranted by his researches. We make it, we should have no fault to shall look forward with interest to the animated discussion which the paper will receive at the hands of the large number of eminent experts who are expected to speak upon the subject at the next meeting of the

> Some suggestions which merit the careful onsideration of the iron trade are thrown out by a correspondent, in connection with the agitation recently revived of restricting the production of iron. This gentleman advocates the establishment of an organization similar to those in all the more important English centers, bearing the character of an exchange. The advantages would be the keeping of accurate and reliable statistical records of production, stocks on hand. &c., and a prompter interchange of opinion between buyers and sellers, resulting in a saving of time, and frequently a saving of money. Whether the present time is favorable for the establishment of such a system we are not prepared to say, but it is probable that the growth of the trade will ultimately lead to it.

> The report of the commercial agent of the United States at Aix-la-Chapelle, Germany, printed elsewhere, summarizes the present ondition of some important industries of the Rhine Provinces, presenting a very gloomy picture of that busy section of the Empire. It seems from his statements that the German leather industry is now seriously crippled and is in danger of being en tirely destroyed by American competition. There is some controversy in regard to the quality of the American article, which German producers assert to be inferior, while consumers continue to support a steadily extending market. We gladly notice such signs of growing intercommunication, which cannot but favorably affect many branches of American industry.

There is a somewhat peculiar state of the market in the West for certain grades of pig irons. No. 3 Bessemer has been the bête nor both of the blast furnaces working on metal for the Bessemer process, and of the Bessemer works themselves. From 15 to 20 per cent. of this grade has been the extreme amount that these works would receive, and even this was not wanted. As the result of the large increase in the number of open-hearth furnaces, however, a demand has sprung up for this grade, and at some furnaces it is commanding a price in excess of that received for No. 1

#### Restricting the Production of Iron.

PHILADELPHIA, Dec. 6, 1878. English ironmasters and political economists seem to be greatly disturbed and incensed at the drift which the government political economists are the drift which the government the Production of Iron." Through the columns of your valuable paper I should like to which, in my opinion, will effect a permanent cure of the evil, viz., organize an association to be entitled, "The National American Metal Exchange." In other branches of trade such associations have been found of great advantage to sellers and buyers, and the proposed metal exchange will, I think, prove no exception. The fluctuation in the prices of iron that have occurred of late cannot be wholly attributed to the depression of this particular industry. Those who have given the subject much thought will have come to the conclusion that fewer sensational rumors and more reliable centers of the English iron trade operators have a sound basis to go upon in all their transactions for the present or future defurnaces, &c., can be compared every week and with the corresponding week of the preceding year, and operators can realize on their iron in the dullest of times with less sacrifice than here, where the trade, not having any organized source of information, cessarily more or less in the dark with

rumors manufactured for the express pur-

rumors manufactured for the express pur-pose of misleading.

It certainly would be a source of pleasure to commission men and dealers to have their business transacted in a couple of hours instead of the loss of time now incurred, ex-tending a business day's work over from six to ten hours without benefiting the consumer, who may have bought an article of one party at 8 o'clock in the morning for a higher price than it was offered by another two hours later. The consumer could go on Change at a certain hour, see what was going on in the trade, hear various opinions, ascertain the basis of prices and purchase on the most favorable terms offered in the room. Yours, respectfully,

JAS. V. UMBERGER.

#### DEATH OF SAMUEL J. REEVES,

President of the American Iron and Steel Association.

The American iron trade sustains a seven ss in the death, on Sunday, Dec. 15, at hoenixville. Penn., of Samuel J. Reeves. Phœnixville, Penn., of Samuel J. Reeves President of the Phœnix Iron Company and President of the American Iron and Steel Association. Mr. Reeves had been in Steel Association. Mr. Reeves had been in precarious health for several years, in consequence of long confinement to the details of his extensive business interests, and in consequence also of a distressing domestic affliction-the sudden death, in 1873, of a daughter, while on a pleasure trip to the White Mountains. Frequently during the past two or three years he has been compelled to seek rest and recuperation in trips to the seashore. In the spring of 1877 he visited Florida, and early in the summer of the present year he visited California. of these recreations were beneficial to his health, but the good effects resulting from them proved to be but temporary. About them proved to be but temporary. About two months ago he experienced several slight hemorrhages from his lungs, and the gravest apprehensions were at once aroused. He kept his bed constantly until last Sunday, when he was released from suffering, but little hope of his recovery having been entertained by his physicians or friends for several days previously.

Samuel J. Reeves was the son of David

Reeves and was born at Bridgeton New Jersey, in 1818; he was consequently a little more than 60 years old at the time of his death. He was fitted for college at an academy at Lawrenceville, New Jersey, of which Prof. Van Cleve was the principal, and at the proper time entered the College of New Jersey, at Princeton, from which he graduated about 1840. Soon after graduation he spent a winter in traveling through the South, and in 1842 he visited Europe, where he remained about six months. In 1846 he was mained about six months. In 1846 he was married to a Baltimore lady, who survives him and who became the mother of six children—two sons and four daughters. All the children survive their father, except his daughter Maggie, to whose death we have already alluded. She was thrown from a stage on the 11th of August, 1873, and died on the morning of the 12th. She was about 23 years old at the time of her death.

About 1814 Benjamin and David Reeves, brothers, established the Cumberland Nail and Iron Works at Bridgeton, and for many and from works at bridgeton, and for many years successfully manufactured nails, with which they largely supplied the Eastern markets. A store was established in Philadelphia for the sale of these nails, and of this store Samuel J. Reeves took charge soon after finishing his collegiate course.
In 1826 the Phœnix Iron Works, at Pho

nixville, which had been established by

Benjamin Longstreth in 1790, passed into the hands of Reeves, Whitaker & Co., of which

firm Benjamin and David Reeves were members. In 1846, after the death of Benjamir Reeves, the firm was reorganized as Reeves Buck & Co., Robert S. Buck and others be coming partners, and in 1855 its title was again changed to that of the Phœnix Iron Company, which is still retained. The firm of Reeves, Buck & Co. also succeeded in 1846 to the ownership of the works at Bridgeton. At Phœnixville their operations were, however, much more extensive, em-bracing the manufacture of nails, rails and bar iron in large quantities and also pig iron. The first rails rolled at the Phoenix Iron Works were made on the 16th of November, 1846. About the time of the organization of the firm of Reeves, Buck & Co., David Reeves intrusted to his son Samuel the virtual management of his two iron interests, and he soon became the active manager of and he soon became the active managed both works—at Phoenixville and at Bridge both works—at Phoenixville and at Bridge ton. From that day until this—more than thirty years—Samuel J. Reeves has been extensive iron enterprises. make some further suggestions bearing on the subject matter under the above heading, vice-president of the Phœnix Iron Company, vice-president of the Phœnix Iron Company, and since then has been its president. He was long the vice-president of the Cumberland Nail and Iron Works, with which works the connection of his family ceased about six years ago. In 1848 the firm of Reeves, Abbott & Co. erected the rolling mill at Safe Harbor, Pa., to roll rails for the Pennsylvania Railroad Company, a blast furnace being also erected at the same time rurnace being also erected at the same time, and of these enterprises Mr. Reeves was the virtual head. Several years ago the business of the Phenix Iron Company, which had steadily grown with the increased demand for iron rails, was greatly extended by its sensational sensations, as well as a closer investigation into the ties, as well as a closer investigation into the nature of some strange transactions, might have prevented such sudden depreciation in values, and that a more uniform mode of this increase of business added greatly to the cares of Mr. Reeves. He was for many the care of the Cambria Iron Company, as his father before him had been He was the inventor, in 1862, of the cele transactions for the present or future de-livery. From their metal exchanges reliable statistics are obtained of production, stocks on hand, &c. By the weekly publication of one can be led astray. The

Mr. Reeves took an active interest in the general welfare of the American iron trade. In December, 1849, he participated in the convention of ironmasters held at Philadelphia, and in 1855 he assisted in the organization of the American Iron Association, and in October, 1864, he assisted in the work

tion in 1859. At the meeting in 1864 Capt. E. B. Ward of Detroit was chosen president of the association, and Samuel J. Reeves was chosen first vice-president. The nam was chosen are vice-president. It the association was changed to the American Iron and Steel Association. Capt. Ward remained its president until the 13th of February, 1869, when he resigned and Mr. Reeves was elected his succ and Mr. Heeves was elected his successor, and uninterruptedly remained its president from that day to the day of his death, almost ten years. We need not dwell upon the intelligence, promptness, fidelity and courage with which he discharged the alimportant and often delicate his office, for the members of this association, and all American iron and steel makers, know how well he served them.

Mr. Reeves was a gentleman of culture, easy and graceful, but dignified manners, strict integrity and the loftiest honor. As an ironmaster he understood his business thoroughly; as a citizen he was public spirited; as a political economist he was wise beyond many of his generation, resolutely insisting upon the maintenance of the protective policy as a part of the permanent fiscal system of the country. He could not be in-timidated nor cajoled into the support of the timidated nor cajoled into the support of the Wood Tariff Bill or any other measure of its class. His speeches as president of this association and his occasional arguments before Congressional committees showed that he was eminently a patriotic American citizen, and that he had the courage to stand by his convictions. his convictions. He was a good man—a just, generous and unselfish man. Our official relations with him, covering six anxious years, have always been of the most pleasant nature. We have lost in him a od friend, and we close this hasty notice of his life and character with a deep sense of

personal bereavement.

The remains of Mr. Reeves will be buried in Laurel Hill Cemetery, Philadelphia, to-day.—Bulletin of the Iron and Steel Association, Dec. 18.

#### Funeral of the Late Burton Mallory.

[By Telegraph.]

NEW HAVEN CONN Dec 18 18-8 The funeral of the late Burton Mallory, senior member of the firm of Mallory, Wheeler & Co., of this city, lock manufacturers, took place this afternoon at two o'clock, at Mr. Mallory's late residence, 666 Chapel street, and his prominence as a manufacturers. ufacturer and the esteem in which he was held at home were shown by the number and position of those who were in attendance. The officiating clergyman was Rev. Dr. E. E. Beardsley, rector of St. Thomas's Episcopal Church At least one thousand perse Church. were present, many of them upon the grounds about the house. Representing the grounds about the house. Representing the trade were J. B. Sargent and H. B. Sargent, of this city and G. H. Sargent, of New York, of Sargent & Co.; C. R. Denckla, of Heaton & Denckla, of Philadelphia; A. G. Angell, of the American Screw Co., of Providence; Henry Russell (2d) and M. J. Woodruff, of Russell & Erwin Mfg. Co., of New Britain and New York; and Thomas Kennedy & Son, of the Branford Lock Works and others. Among those from the city were Mayor Shelton, Branford Lock Works and others. Among those from the city were Mayor Shelton, ex-Mayor H. G. Lewis, ex-Mayor L. W. Sperry, ex-Mayor H. M. Welch, ex-Gov. J. E. English, Hon. Richard S. Fellowes and John R. Davenport, John S. Davenport and Mrs. T. D. Wheeler, children of the late John A. Davenport, so long associated in business with Mr. Mallory. The employees of the firm, to the number of over 200, attended in a body, and after viewing the remains acted as escort to the cemetery, in charge of E. E. Marsh and Henry E. charge of E. E. Marsh and Henry E. Tal-madge, foremen. They were preceded by the office elerks. The bearers were C. R., Denckla, of Philadelphia; A. G. Angell, of Providence; G. H. Sargent, of New York, and E. E. Hall, W. T. Bradley, Daniel Trowbridge, W. H. Bradley, L. W. Sperry, John E. Bassett, H. G. Lewis, C. S. Leete and F. R. Bliss, of this city. The remains were taken to Evergreen Carnetery for interment. The procession city. The remains were taken to Evergreen Cemetery for interment. The procession was a very long one, and in it was the empty coupé of Mr. Mallory, draped in mourning, escorted by the men servants of the house on foot. In the cemetery the market forward a cordon around the grave. workmen formed a cordon around the grave, encircling the relatives. The floral contri-

#### Some Severe Comment.

butions at the house were very elegant, and included a beautiful offering from the em-ployees. The family received during the day

many letters and telegrams of sympathy from representatives of the trade in various

sections of the country.

LONDON, Dec. 18 .- The Times, in its financial article to-day, says:
The more recent news regarding the state

of the West of England and South Wales District Bank has unquestionably done much mischief, and strong complaint was made that the truth was not made more clearly known at the date of suspension.

Instead of telling the worst, as they no

doubt could have done, the directors suffered people to nurse the delusion that the suspension was due to a pernicious run, and that therefore the bank might easily be in some form resuscitated. A few knew all along that the whole paid-up capital and reserve were probably lost, but the mass of the peo-ple believed the more ideal presentation of

The result of this concealment has been to renew and intensify the feeling of dis-trust, which was beginning to die away. Men say, with justice, they can no longer believe what they are told by bankers, and the silliest rumors are endowed with tenfold power for mischief. It is profoundly to be regretted that the credit of the banking community should be played with and shaken in this fashion.

Advices from Stockholm state that another firm. I. Hirsch, has failed with 3,000,other firm, 1. Hirson, has laided with 3,000,000 crowns liabilities, its difficulties having arisen through the fall in the price of iron, and also from unprofitable operations in building and land. The assets are reported to be sufficient, but this is conidered doubtful. The firms which have

gone into liquidation. A rather better feeling prevails in Sweden now, but it is feared bank managers there have been no wiser than in other parts of Europe, and hold too many securities and too small preportion of capital.

#### A Canadian View of Free Trade.

The Toronto Mail, in an article on free

rade, says: Let us take a statement by Rogers, the biographer and almost worshiper of Cot-den. He writes: "The producer of a protected article debars himself from entering into competition in the foreign mar-kets. To take an example, the United kets. To take an example, the United States could take first place in the coal and iron industry of the world; as it is, they have no place at all in those in-dustries." Now, the States supply at home some forty odd millions of people with home-made, home-mined iron and coal; yet, says Rogers, "they have no place at all" in supplying the world; so that, according to this great Cobdenite, 40,000,000 of buyers are of no account in the world's markets. But since Rogers wrote protection has But since given such a stimulus to the industries in the States that American tools, American iron goods, are being so freely sold in England that a royal commission is being implored to see how it is that a country which has "no place in the a country world" is taking a place as a competitor in the very center of England's iron industries. Here is no theory, no illustration of sup-posed conditions. Here is a free-trade au-therity on one hand and on the other a fact which gives that authority the lie direct. Further, if the States can sell as they now do at Sheffield and Wolverhampton what those vast congeries of workshops manufacture, they can also sell anywhere in the world where those towns now export to, so that besides their own 40,000,000 customers the States have now England herself as a customer, and therefore all England's customers. Yet the very high priest of the free-trade temple says "America has no place in the world's markets." We would like our free traders here, after digesting the above, to ask how could the States ever have established this wonderful iron industry of theirs, which is filling England with alarm, if they had allowed English-made goods to crush, in their inception, all attempts to establish this industry by competition, as they vould have done but for protection.

#### Serious Failure of Iron Dealers.

LONDON, December 18 .- Zubina & Co., iron ore importers, of Cardiff and Newport, have failed in consequence of the stoppage of the tin plate works of Booker & Co., near Swansea, whose bills Zubina & Co. held to a large amount. This failure will consider ably increase the liabilities of the West of England and South Wales District Bank.

#### Another Failure.

LONDON. December 18 .- Messrs. Fox. Walker & Co., of the Atlas Engine Work Bristel, have failed. Liabilities, £60,000.

Glass Items,-A number of the lampchimney blowers of Pittsburgh are agitating the subject of leasing the three-pot factory at Mansfield, on the Panhandle road, belonging to Mr. Hope, and operating it on the co-operative plan. — At Sharpsburg, Pa., operative plan. — At Sharpsburg, Pa., Tibby Bros.' bottle glass house is employing Tibby Bros.' bottle glass house is employing 175 men, 48 of whom are blowers. Both factories are running full. ——Operations in the La Salle, Ill., window glass works have been suspended since last May, owing to the ruinous price at which window gless has been selling ever since.—The De Stieger Glass Company, of La Salle, Ill., have an eight 56-inch pot furnace in operation making bottles.—The Buckeye Glass Works, ing bottles.—The Buckeye Glass Works, at Martin's Ferry, Oh.o, is crowded to its utmost capacity with orders.—The Croton Glass Works, at New Castle, Pa., are running five days in the week, with the prospect of keeping it up all winter.

The Business of One Firm .- As an evidence of the extent of the coal business of Pittsburgh, we give the following figures showing the shipments by the firm of W. H. Brown. Since Nov. 26 ten tows have been sent out as follows:

46 coal boats..... 17 French creeks..... 7 French creeks. 33 barges. 6 fuel barges. 1,921,000

In addition to the coal given above there were six barges and three boats, containing 284,000 bushels, making the total shipments 2,205,000 bushels. During the entire month of November, 1877, the aggregate shipments were 1,813,500 bushels of coal, and 315,224 bushels of coke.

A Philadelphia paper states that there has been filed, in the local United States Circuit Court, for W. Romeyn Vermilye, E. M. Cook and others, of New York, a bill in equity directed against the Lehigh Coal and Navigation Company, to restrain that company from entering into an arrangement pany from entering into an arrangement of agreement to carry into effect a so-called lease of the properties and franchises of the Delaware Division Canal Company of Penn-sylvania, or to incur any liability for a guarantee of its bonds, and to enjoin the chigh Coal and Navigation Company from Lehigh Coal and Navigation Company from further occupying and maintaining a part of that canal, and that they be directed to surrender possession thereof to the Dela-aware Division Canal Company. The plaintiffs are stockholders of the Lehigh Coal and Navigation Company.

The Nevada Bank recently had an offer of 98 1/2 cents each for its large stock of trade dollars, and refused it because when they were coined it had pledged its word government that they should be sold only for exportation. It reckoned its good name more valuable to itself than a profit of six cents apiece on its stock of dollars could be. Some of the parties who have had trade dol-

#### The Cotton and Wheat Crops.

From the returns received this month the Agricultural Department is enabled to make the final estimated computation of the crop of cotton raised this year. The acreage is about 2 per cent. greater than in 1877, an amount not large enough to affect materially the total product, being only 209,503 acres. The October and November returns showed The October and November returns showed a condition II per cent. higher than the same months last year. Owing to the remarkably fine weather for picking, which has lasted to date, the yield of lint per acre is much higher than in 1877, only three States reporting less—Florida, Alabama and Louisiana—while all the others report an increase. The average production for 1878 is crease. The average production for 1878 is 191 pounds per acre, thus making the crop of 1878, in round numbers, 5,197,000 bales of cotton—allowing 450 pounds as the weight of a bale.

The October returns of the Department of Agriculture did not materially change the aspects of the wheat crop as foreshadowed by the monthly reports of condition. The December returns, including estimates of yield per acre, confirm and somewhat enlarge previous estimates. A computation from all the returns show an aggregate crop of about 125,000,000 bushels, but on account of the 425,000,000 busness, but on account of the strongly expressed public anxiety for trustworthy figures, a portion of the inquiries quve been referred to the statistical correspondents for revision. It is not believed that the result will be materially different. The increase in the final out turn of the crop is due to the large increase of acreage, which was at least one-sixth greater than the previous year. Many of the larger wheat-producing States very greatly reduced their average yield per acre. Virginia fell from 10.4 bushels to 7.7; Tennessee from 5 to 4; Kentucky from 12.5 to 9.3; Illinois from 16.5 to 13.6; Wisconsin from 15 to 12; Minnesota from 18 to 12; Iowa from 14.5 to 9.4; Missouri from 14 to 11. On the other hand, other States show a marked increase. New York rose from 18 to 19; Pennsylvania from 13 to 15; Ohio from 15 to 18; Michigan from 17.5 to 18.3; Indiana from 14.5 to 15.8; Kansas from 13.5 to 16.3; California from 9.5 to 14.4. The Territories show an immense expanse of wheat cultivation, with the high average yields characteristic of virgin soils. The yield of some of the Territories was considerably more than double GEO. V that of the previous crop.

The Glass Makers' Strike.—The trouble in the glass works at Pittsburgh still con-tinues. The workmen have defined their position as follows: The proposition of the manufacturers that the work shall be done by the 100 instead of by the turn, is acceptable to all excepting the gatherers. In their case it is unjust, because they have not control of their time, but must work or stop according to the pleasure of the presser. As to working five hours for a turn, the men are willing to accede to the pro-position in case of failure on their part to make the required number of pieces in less time. The manufacturers are accorded the right to make such articles as the trade demands, to hire such persons as the trade demands, to hire such persons as they may deem proper, and to discharge any employe for neglecting his work, for making bad work, for wilfully injuring property, or for conduct detrimental to the interests of the manufacturer. In answer to this the manufacturers say they will stand by their ultimatum, and will refuse to consider any proposition for a compromise with the pressers as a union. They are willing to confer with the men outside of their union—the tiet are the pressure of the agrard. that is to say, the proprietors of the severa factories will meet their employees, each firm acting for itself alone, and requiring that the men of each factory shall act without reference to the pressers outside of the es-tablishment in which they are employed. As to the assertion that it is unjust to require to the assertion that it is unjust to require the gatherers to work by the 100 instead of by the turn, the manufacturers say that the gatherer is no more under control of the presser than is the finisher, and he is not therefore entitled to special privileges. In short, the several firms express their deter-mination to no longer submit to the dictation of their employees, and to conduct their own business in their own way. business in their own way

A large crowd assembled on the viaduct at Cleveland on the 3d inst. to witness the first swing of the massive iron drawbridge that connects the east and west sides of the city over the Cuyahoga River. Fifteen men swung the draw in 11 minutes. Everything worked smoothly, all measurements being exact. The total weight of the bridge and table is 625 tons. The formal opening of the viaduct will probably take place on December 27.

#### Special Notices.

#### Bookkeeper or Salesman.

A young man, age 26, for five years with one house, desires a position as bookkeeper or salesman. Is competent to take entire charge of books. Has had experience on the road. References unquestionable. Address N. A. W., Office of The Iron Age, 83 Reade St., New York.

#### TO IRON, STEEL OR HARDWARE MANUFACTURERS.

The undersigned, having been thrown out of employment by the failure of the firm he has been connected with for several years, solicits the correspondence of any house in above line needing the services of a trustworthy man. Is a thorough bookkeeper and familiar with all details of office work. Has also been on the road.

Address HENRY & LIFFORD,

Office of The Iron Age, 83 Reade St., N. Y.

SITUATION WANTED as Traveling Salesman. Eleven years' experience in the hardware business. Have traveled five years for a manufacturing house in New York city. Good city and state trade. Have also traveled in Western States. Good reference and satisfactory reason for leaving present employers. Address COMMERCIAL TRAVELER, Office of The Iron Age, 83 Reade St., New York.

#### Special Notices.

# Leigh's Tables of

(5% to  $82\frac{1}{2}\%$  and all the combinations.) Arranged in three parts:

I. Comparative Discounts.
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Reliable, Comprehensive, Practical. Mailed postpaid to any address for \$1. Address EDWARD B. LEIGH,

St. Louis Elevator, St. Louis, Mo.
Or either of the Publishers, viz:
IVISON, BLAKEMAN, TAYLOR & CO., New York.
R. & T. A. ENNIS, St. Louis.

SECOND-HAND MACHINIST TOOLS. neerly new; 22 in.X10 ft., good order; 15 in.X2 ft., Star Tool Co., new; 16 in.X5 ft., Ames Mfg. Co., nearly new; 16 in.X5 ft., Stroud, fair order; 15 in.X2 ft., Fitchburg Mch. Co.; 14 in.X5 ft., Flathers; 3 in.X4 ft., Fratt & Whitney, with taper attachment; 3 Spencer Hand Lathes; one 12 in.X4 ft. Hand Lathe; 1 square arbor Fox Lathe; one 35 in.X7 ft. Planer; 1 do. 30 in.X7 ft.; 1 do. 27 in.X7 ft.; 1 do. 24 in.X5 ft.; 1 Crank Planer, 1 in. stroke; 1 do., 24 in.X5 ft.; 1 Crank Planer, 1 in. stroke; 1 do., 24 in.X5 ft.; 1 Crank Planer, 2 in. stroke; 1 do., 24 in.X5 ft.; 1 Crank Planer, 2 in. 1 i

E. P. BULLARD, 14 Dey St., New York,

### SPECIALTIES.

### STEAM PUMPS and STEAM MACHINERY.

Steam Pumps for every possible duty. Estimates given for and Pumps erected in artesian and other wells any depth or capacity. Special Pumps to work with exhaust steam, guaranteed to put no back pressure on the engine. All ma-

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#### To Capitalists and Manufacturers. FOR SALE IN CANADA,

Complete manufacturing establishment for making Bolts, Nuts and Spikes. Extensive premises, conveniently situated, containing all requisite tools, plant, machinery, furnaces, shafting, beltilleys, taps, dies, &c., all complete, in working order. Good and increasing market. manufactory at present in Canada. Protective tariff of 17½ per cent. ad valorem, and every prospect of its being largely increased Will be sold at a bargain. Terms liberal. For particulars apply J. H. BARTLETT. 64 King St., E., Toronto, Canada

### PARTNER WANTED.

Wanted, in a flourishing city in Missouri, a partner with \$20,000, either in cash or its equivalent in Hardware, in a well-established and successful Hardware house. To a live Hardware Merchant who would like to move his stock West this opportunity presents unusual advantages, as the only reason for this advertisement is that more business is available than the owner has capital to take care of. Address PARTNER.

Office of The Iron Age, \$3 Reade St. N. Y.

#### SPECIAL NOTICE. CHEAP HARDWARE

Having determined to close out our entire stock of Hardware, as we intend quitting business, we are offering especial inducements regardless of cost. Call and see

LANK & ROONE. cost. Call and see LANE & BOONE,
Importers and Jobbers of Hardware, 1927 Market St., Philadelphia.

### **Hardware Business** For Sale.

in one of the best situations in Philadelphia, Pa.

Address

Office of The Iron Age, 83 Reade St., N. Y. FOR SALE LEASE OR EXCHANGE—
Valuable Patents, Franchises. Fully equipped for Agricultural Implements, or work in Wood, fron and Steel. Smithy, Foundry, Wood and Machine Shops, Dry House, etc. all new. In city of 15,000 population, center best agricultural part Illinois. Gas and water, five railroads, two switches at door, cheap coal. Cost \$160,000. One-third that amount will buy. Care of N. W. AYER & SON, Philadelphia, Pa.

WANTED.—BY A MAN OF EIGHTEEN years' experience in the Hardware business who has been on the road, a situation as traveling salesman for a Hardware or Cutlery manufacture or jobbing house. Best of references given. Salary noi so much an object as permanent employment. Address

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### Wanted,

Position as Superintendent of Rolling Mill, by party educated as an engineer, but engaged for past nine years in practical rolling-mill work. Possesses knowledge of chemical analysis necessary for the economical admixture of stock. Refers by permission to former employers.

Address A. J. MOXHAM,
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#### RUSSIA.

Advertiser, experienced in Machinery, especially agricultural, with a very large connection, seeks to REPRESENT A GOOD AMERICAN FIRM.

Address

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Berdiansk, S. Russia.

A MAN OF LONG EXPERIENCE WITH ONE of the largest and best known houses in this city, desires situation January 1st. Thoroughly conversant with Locks, Bronze and Builders' Hardware. Competent bookkeeper. Salary moderate. No objection to leave city.

Address HOWARD, Office of The Iron Age, 83 Reade St., New York,

THE UNDERSIGNED, FOR THE PAST TEN Office of The Iron Age, 83 Reade St., New York.

WANTED—BY A YOUNG MAN, a position true of some line of hardware or tinware, in this city and the neighboring towns. Has an established trade.

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#### Special Notices.

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In due time the price will be advanced so as to afford a moderate profit. Merchauts, Manufacturers, Bookkeepers and Clerks now is your time. Send in your Bollar and receive the book by return mall.

This book has a copious

#### INDEX.

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On the Premises, New Brighton, Beaver Co., Pa., on Thursday, January 18th, at 1 p. m., Known as the KEYSTONE WOOLLEN MILLS, Consisting of One four-story Brick and Stone Building, 85x33, with two-story Stone Attachment; lot 150x150. One four-story Brick and Stone Building, 66x36, with two one-story Brick Attachments, 32x36 and 66x45.

with two one-etory Brick Attachments, 32x36 and
66x45.
One four-story Brick Warehouse, 48x27, with
small Dwelling and Stable, lot of both being 100xy0.
A 30-ft. Street runs through both these properties.
Also one-third interest in a three-story Carpenter
Shop, lot foaxifo feet.
Ample water-power to each of the mills, which
contain four sets of cards, with looms, etc., all in
good running order. The property will be divided
and sold with or without the machinery.
For fuller description apply to
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RICHARD CADBURY, 225 Chestnut St., Phila.
H. P. BANGROFT, 98 Franklin St., New York.
New Brighton is on the Beaver River, 27 miles
from Pittsburgh, on the P.,Ft. W. & C. and P. & E. R.
R., and is the center of a population of about 15,000.

# To Steel Manufacturers.

An energetic young man with scientific training, who has had experience in the manufacture of Bessemer and Crucible Steel, in preference to remaining unemployed would be willing to take a subordinate position with the prospect of being employed as blower in Bessemer or as melter in Siemens-Martin steel works. Highest recommendation as to integrity, character and ability furnished. A correspondence, which shall be strictly confidential, respectfully solicited.

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83 Chambers and 65 Reade Sts., N. Y. Sales held weekly for the trade. Consignment solicited. We refer to the leading Manufacturer and Importers.

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Job Lots and Bankrupt Stocks Hardware. Great bargains offered to the trade.

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3 AMES E. DENISON.

William St. Melbourne. 20th Augusts. 1876. 9 William St., Melbourne, 29th August, 1876

#### INTERNATIONAL EXHIBITION. MELBOURNE, AUSTRALIA.

American manufacturers and others who wish to be represented at the international Exhibition, to be held in Melbourne in 1880, are respectfully requested to communicate with the undersigned, who is now making arrangements for personally attending to a limited number of exhibits. Terms, references and full particulars can be obtained on application to

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#### Special Notices.

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FOR SALE.

The Tools in the following list are all of Wood, Lighte & Co.'s make, have been used, but are all in good order and will be sold low

Five Engine Lathes, 13 in, swing 5 ft. bed.
Six Engine Lathes, 20 in, swing 75 ft. bed.
Six Engine Lathes, 20 in, swing 75 ft. bed.
Five Engine Lathes, 20 in. swing, 8 ft. bed.
One Engine Lathe, 21 in. swing 6 ft. bed.
One Engine Lathe, 22 in. swing 15 ft. bed.
One Engine Lathe, 22 in. swing 15 ft. bed.
One Engine Lathe, 25 in. swing 15 ft. bed.
Two Upright Drills, 27 in. swing, 15 ft. bed.
Two Upright Drills, 25 in. swing, not genered.
One Upright Drill, 32 in. swing, not genered.
One Upright Drill, 32 in. swing, back genered as elf feed.
One Planer, 24 in. x 23 in. x 4 ft.

One Planer, 24 in. x s3 in. x 4 ft.
One Planer, 24 in. x s4 in. x 4 ft.
Two Planers, 25 in. x 30 in. x 5 ft.
One Planers, 35 in. x 30 in. x 10 ft.
One Planers, 37 in. x 30 in. x 10 ft.
One Planer, 37 in. x 30 in. x 10 ft.
One Planer, 42 in. x 36 in. x 15 ft.
One Planer, 42 in. x 36 in. x 15 ft.
One Shaping Machine, 15 in. x 10 ft.
Two No. 2 Milling Machines.
One Horizontal Boring Lathe.
The following are all now tools

The following are all new tools to be sold very low, and are all Wood, Lighte & Co.'s The Sherman Process Co.

make:

One Engine Lathe, 13 in. swing, 4 ft. bed.
Two Engine Lathes, 13 in. swing, 5 ft. bed.
One Engine Lathes, 13 in. swing, 6 ft. bed.
Four Engine Lathes, 16 in. swing, 6 ft. bed.
Two Engine Lathes, 16 in. swing, 6 ft. bed.
Two Engine Lathe, 20 in. swing, 2 ft. bed.
One Engine Lathe, 28 in. swing, 12 ft. bed.
One Engine Lathe, 28 in. swing, 12 ft. bed.
Three Planers, 24 in. x 24 in. x 4 ft.
Two Planers, 24 in. x 24 in. x 6 ft.
Two Upright Drills, 13 in. swing, back geared and Self feed.
One Planer, 26 in. x 36 in. x 12 ft.
Two Shaping Machines 8 in. stroke.
One Shaping Machines, 11 in. stroke.
One Shaping Machine, 14 in. stroke.
One Combined Shaping and Slotting Machine.
Two No. 1 Bolt Cutters.
One No. 3 Bolt Cutter.
One No. 1 Bolt Cutter, with centers.
Five No. 2 Bolt Cutters, with center.
Five No. 2 Bolt Cutters, with center.
For sale by the

For sale by the GEO. PLACE MACHINERY AGENCY, Job and Auction Lots of Hardware, 121 Chambers and 103 Reads Sts.

DECEMBER LIST, No. 2.

# TOOLS, Second-Hand.

One Portable Engine, 6 in. cylinder. One No. 3 Stiles Geared Press. One No. s Fowler Press. One Hand Milling Machine. One "Pond" Index Milling Machine. Three Chase Patent Pipe Cutting Machines. One Engine Lathe, 16 in. swing, 8 ft. bed. One Back Geared and Self-Feed Drill, 3s in

swing.

Two Engine Lathes, 22 in. swing, 6 ft. bed.

Two Engine Lathes, 22 in. swing, 8 ft. bed.

One Engine Lathe, 13 in. swing, 6 ft. bed.

One Engine Lathe, 13 in. swing, 7 ft. bed. Three Engine

Lathes, 20 in. swing, 7 ft. bed. Three Engine

Lathes, 20 in. swing, 8 ft. bed. Six Turning Lathes,
14 in. swing, 4 ft. bed. Three 4-spindle Drills.

One 8 in. Shaper. One Gear Cutter. One new

"Hardaway" Bolt Heading Machine, to head up

to 3/4 in. bolts. One new "Hardaway" Bolt Head
ing Machine to head up to 13/4 in. bolts. A lot of

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Saw Tables and Wood working manning.

Please specify which of the above tools you want
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The above tools will be sold very low, and can be

#### The Geo. Place Machinery Agency 121 Chambers and 103 Reade Sts., NEW YORK.

One 9-inch Train Rolls,
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Eoth with Housings.
Two Steam Hammers,
One Pair Shears,
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Pumps,
Three Small Steam Pumps,
Two Holsting Engines,
Three Steam Bollers,
One Lighthall Condenser,
One Surface Condenser, One Surface Condenser, Deck Pumps, Low Pressure Gauges Registering Gauges, &c.,

FOR SALE LOW BY

# DANIEL W. RICHARDS & CO.,

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A 200-LB. BRADLEY HAMMER, but little used, good as new. Price, at factory

ONE 30-TON CRANE.

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WANTED.—A German, at present engineer at one of the largest iron works of Germany, Eisen huette, Gutchonfungshuette, Oberhausen, seaks an engagement in this country. He has a thorough practical and theoretical experience in the management of blast furnaces, foundries and coke works, and has acquired a thorough knowledge of metallurgical chemistry, being a graduate of the Royal Academy of Berlin. He wishes specially to form an engagement with an esta-lishment where his invention of a new process of eliminating phosphorus from iron and steel, recently patented in this country, would be put to a practical test. Address P. B. BERGE.
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#### Special Notices.

# For Sale Low.

SEND FOR LIST.

Engine Lathe, built by Seth Wilmarth, \$2 in. swing, 33 ft. bed live spindle hollow, face plates both ends, one at front of ft. 4 in. diameter, one at rear 2 ft. 1% in. diameter, two boring bars traversed by tail spindle, both arranged for splining key ways; one of these bars is designed for work on rear face plate and has yoke to support outer end; on either face plate work may be bored, turned and splined without removing the fastenings. At rear face plate an adjustable bod 12 feet long, carrying an adjustable icol rest, the latter having 3 ft, 6 in. traverse, arranged to sit at any angle and in any position on above bed. Tail spindle is 5% in. square, carriage is fed by a scrow the full length of bed, cross feed automatic, 6 grades of feed to operate either, 10 grades of speed for live spindle, driving movement gears direct to front face plate, complete with counter-shaft for driving, splining and feeding. One large saddle or center rest.

Flaner, built by W. Collier & Co., Salford, Eng., planes 34 in. wide, 48 in. high, 18 ft. long, automatic cross, vertical and angular feed, platen driven by gearing into step rack, return motion about 3 to 1; has third upright with vertical tool elider, automatic feed, to plane work that will not pass between the regular uprights. This slider shaft.

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Issue Licenses to use the Process for the Manufacture of Iron and Steel

In the Bessemer Converter, Crucible, Siemens Martin, Puddling, Blast and Cupola Furnaces. The use of this Process improves the quality of the product, saves fuel and labor, and does not re-quire any change in furnace or manner of working. See page 17 of The Iron Age of Oct. 25th, 1377.

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 \$12.00

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R. W. BOOTH & CO., Cincinnati, O.

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CALIFORNIAN AGENCY. A San Francisco firm of File and Tool makers, having an agent constantly traveling among the consumers in the State and West Coast, is desirous

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Whole or part interest in largest Machine Shops and Foundry in Omaha, Neb. Employ 30 men. Business profit-able. Reason for selling, owner is an attorney and cannot give the business attention.

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In the finest section of Western New York. A general Hardware business, established in 1849; stock about \$5000, well assorted and adapted to the trade; building of brick, 25x00, two stories, and built expressly for the business. The above offers superior inducements to any one about to commence business, and will be sold at a low price.

Apply to L. Rathborn, Assignee, On Y W.

#### ee Co., N. Y. Oakfield, Gene ROLLING MILL FOREMAN.

Wanted, in an Eastern Mill, a steady, industrious man, to take practical charge of a Forge and Rolling Mill. Must be acquainted with the rolling of all classes of merchant iron. Please state age where previously employed and references. "IRON." Office of The Iron Age, 83 Reads Street, N. Y.

FLOWER PINS. THE ENTIRE PATENT

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For Sale in Central New York. Stock will invoice \$12,000. Business has increased from \$12,000 to \$35,000 in three years. Reason for wishing to sell, lack of capital for the steadily increasing trade.

Address

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G. J. W., Canastota, N. Y

### A Rare Chance.

For Sale—An established Hardware Business of 15 years' standing, in a Western city. Location unexcelled. Capital required, \$6000; prefer he cash, but instead will take part in live stock (cattle or sheep). Best of reasons for selling, For

HARDWARE, Box 44,
Office of The Iron Age, 83 Reade St., N. Y

# Trade Report.

Office of The Iron Age, Wednesday Evening, Dec. 18, 1878.

The past week has been without event of great general interest in the financial markets, with the single exception of the decline of gold to par. The first sale at par was made at half-past 12 o'clock p. m. on Tuesday. It would be interesting, if we had in 1840, when he was employed as book-time and space, to trace the fluctuations in keeper for Pierpont & Hotchkiss, of New gold since the beginning of the war, but the topic would suggest so many reflections that we can only allude to it thus briefly. Coincident with this important event, exchange on London advanced to 4.881/2 for demand bills, or within one point of the figure at which gold can be profitably exported.

The local money market has been easy, with rates at 3 @ 4 % on call, and 4 @ 5 % on

prime business paper.
Government bonds are strong and are in good demand with nearly all classes of degirable investment shares. We give below

the closing quotations of governments.

The stock market has been strong, except for the shares of the companies identified with the anthracite trade. The coal stocks are very weak in consequence of the prospect of a break up of the combination. After the coal stocks the most active shares were St. Paul, Northwestern and Lake Shore. We give below the closing prices of stocks on the active list.

The bank return for this week shows an increase of \$1,461,750 in surplus reserve, which now stands at \$9,827,800, against \$8,155,600 at this time last year, and \$11,848,475 at the corresponding period in The loans show a decrease this week of \$1,768,300; the specie is increased \$713,200; the legal tenders are up \$517,500; the deposits are decreased \$924,200, and the

eirculation is increased \$3,400.

The following is an analysis of the bank totals of this week compared with that of last

week:	Dec. 7.	Dec. 14.	Comp	arisons.
Loans		\$238,047,200		713,200
Specie Legal t'nd'rs		40,418,500	Inc.	517,500
Tot. reserve. Deposits	207,058,600			1,230,700
Reserve re-	\$1,764,650	51,533,600		931,050
Surplus	8,366,050	9,827,800	Inc.	1,461,750
Circulation.	20,058,200	20,141,600	inc.	83,400

The foreign trade movements for the week are shown in the following tables: IMPORTS.

For week ended Dec. 14: 1876. 1377 Total for week. \$4,044,054 \$3,969,695 \$7.273.070 Prev. reperted. 265,673,486 302,797,506 265,650,383 Since Jan. 1....\$269,717,540 \$306,767,261 \$276.922,453 Included in the imports of general mer-

chandise were a	rticles va	dued as fo	llows:
		Quanti	ty. Value.
Brass goods		4	6 \$4,294
Bronzes			7 1,383
Chains and ancho	rs		9 307
Copper			. 2,049
Cutlery		5	1 15,936
Guns			
Iron, pig, tons			
Iron, sheet, tons			
Iron cotton ties			
Iron, ore, tons			
Iron, other, tons.			
Lead, pigs			
Metal goods			
Nails			
Needles			
Old metal			
Platina			
Plated ware			3 387
Per. caps			
Saddlery			
Steel			
Silverware			5 403
Tin, bxs			
Tin, 2188 slabs			
Wire			
EXPORT	S, EXCLUSIT	TE OF SPECIE	i.
For week end	led Dec.	17:	
	1876.	1877.	1878.
For the week	\$5,724,257	\$6,319,059	\$6,331,833

Since Jan. 1....\$261,808,435 \$283,548,400 \$333,858,420 For week ended Dec. 14: Total for the week..... Previously reported... \$236,067 21,882,931

Total since Jan. 1, 1878..... de close as folk 8. Currency 6's.... 8. 6's 1881 registered 8. 6's 1881 coupon. 8. 6's 1885 new reg. 9. 6's 1865 new reg. 9. 6's 1867 reg. 9. 6's 1868 reg. 9. 6's 1868 reg. 9. 6's 1868 reg. 11934 103)

110 108¼ 108¾ 106¾ 106¾ U. S. 6°8 1808 con.
U. S. 10°40 reg.
U. S. 10°40 reg.
U. S. 10°40 coupon
U. S. 10° 1831 registered.
U. S. 5° 1831 coupon
U. S. 45° 1851 registered.
U. S. 45° 1851 coupon.
U. S. 45° 1859 registered
U. S. 4° 1897 registered
U. S. 4° 1997 registered
U. S. 4° 1997 registered
U. S. 4° 1997 registered The following were the closing quotations Atlantic and Pacific Telegraph.
Chicago and Northwest.
Prof.
Chicago, Rock Island and Pacific Chicago, Bur. and Quincy.
Col., Chicago and Ind. Central.
Clev. Col., Cin. and Ind.
Cleveland and Pittsburgh.
Chicago and Alton Preferred.
Canton.
Delaware, Lack. and Western.
Delaware and Hudson Canal. Bid. 33 % 82 % 33 8214 42 % 37 % 106 %

Harlem Hannibal and St. Joseph.... Pref.

Minois Central.... Kansas Pacific. Kansas and Texas.

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GENERAL HARDWARE.

The trade in goods suited to the requirenents of the holiday season is fairly active and in General Hardware, although the volume of business has tapered off considerably, there is quite as much activity as ould be reasonably expected at this season.

Burton Mallory, senior partner in the firm of Mallory, Wheeler & Co., died suddenly at his residence at New Haven, Conn., on Sunday evening last. Mr. Mallory's connection with the Lock business commenced Haven. In 1843, at the death of Mr. Hotchkiss, he became a partner under the firm name of Pierpont, Mallory & Co. After ward the firm was successively Davenport & Mallory; Davenport, Mallory & Lockwood; Davenport & Mallory; Davenport, Mallory & Co., and finally Mallory, Wheeler & Co. Mr. Mallory was endowed with rare executive ability, and was familiar with every detail of the business, which grew to its present large proportions under his care. As an evidence of the enterprise of his house we may mention the remarksble catalogue issued in 1871, with which the trade are familiar. This work, which is magnificently illustrated, cost nearly \$80,000 for an edition of 2000 copies. Mr. Mallory attended to his usual business on the Saturday preceding his death. He was born at Westville, Conn., in 1816. The business of Mallory, Wheeler & Co. will suffer no interruption, and will be conducted, we are informed, under the same style as formerly The management will devolve upon thor oughly competent men, who have been associated with Mr. Mallory in the direction of the business for many years. We print on another page a notice of the funeral which foot note: took place this afternoon.

The Table Cutlery Manufacturers' Association is in session in this city. Their action, if any, had not transpired at the close of business to-day, and is not likely to be made public until the end of the session, which it is expected will close to-morrow (Thurs-

We have received the following letter:

Beaver Falls, Pa., Dec. 17, 1878. To the Editor of the Iron Age: DEAR SIR -We met with an accident yesterday, caused We met with an accident yesterday, caused by the giving way of part of the foundation wall of our main building, and a portion of the side of the building hav fallen. From the panic caused by the operatives rushing out and excitement attending it we fear local reporters may magnify the damage. We are happy to state that no one was injured. and that upon examination we find we will be able to repair the break, and have our factory running as usual by January 1st Yours truly,
BEAVER FALLS CUTLERY Co. prox.

The demand for Nails is seasonably fair, and prices remain firm as previously quoted, viz., \$2.10 to \$2.15, net, for 10d. to 60d. ording to size of order.

We print below the joint circular of the owners of the Cabell and Knox Fluting Machine patents, which is deserving the attention of the trade; also the revised price lists adopted this day by the manufacturers licensed under the above-named patents:

New York, Dec. 18, 1878.
To Whom It May Concern: On the 16th To Whom It May Concern: On the 16th inst. Judge Nixon, of Trenton, granted a preliminary injunction against Edward Zusi, of Newark (manufacturing a Knox style of Fluting Machine), and Henry S. Bedell, of same place (selling the Champion Fluting Machines), for infringement of the Cabell and Knox Fluting Machine patents, now owned by Mr. Leon Abbett, of the law firm of Abbett & Fuller, New York city, and Mr. Daniel Jackson. The validity of some of these patents has been fully established by a previous decision of Judge Nixon after a full hearing on the merits of the case.

The only parties now licensed to use these the American Machine Compatents are the American Machine Com-pany, Philadelphia, and Lowerre & Tucker, Newark, N. J. All other manufacturers and dealers in unlicensed Fluting Machines will be immediately proceeded against, as the owners of the patents are determined to stop infringers at any cost

LEON ABBETT, DANIEL JACKSON PHILADELPHIA, Dec. 18th, 1878.

To the Hardware Tre with a price list adopted at a late meeting of Fluting Machine Manufacturers licensed under the Knox & Cabell Patents, the wholesale price of our make of Fluting Machine this date and until further notice will be as follows viz. :

Eagle Fluting Machines, each, 3½ in., \$1.62½; 5½ in., \$2.12½.

Crown Fluting Machines, each, 4½ in., \$2.62½; 6 in., \$3, 18 in., \$2.

Star Fluting Machines, each, 4½ in., \$3.50; 6 in., \$4. Terms cash, 30 days. Respectfully, AMERICAN MACHINE COMPANY,

H. ALBRECHT, General Agent.

NEWARE, N. J., Dec. 18, 1878. To the Hardware Trade.-In accordance with a price list adopted at a late meeting of Fluting Machine manufacturers, licensed under the Knox & Cabell patents, the whole-sale price of our make of Fluting Machines after this date and until further notice will be as follows, viz. :

Knox Fluting Machine, No. 99, 4 inches, \$2.50; inches, \$3; 8 inches, \$5. Crown Jewel Fluting Machine, 6 inches, \$2.50.

Terms cash, 30 days. Respectfully,

LOWERRE & TUCKER. Henry Disston & Sons are preparing new edition of their catalogue, showing the goods which have been added to their assortment during the year; also a new catalogue of over 40 pages, showing full-size illustra tions of their large variety of Files and Rasps. These will be issued about Jan. 1, 70 Raspo 74% 1879

Co.'s stock of Files has never been so low at this season of the year as it is to-day, and that their works are and have been for some Nos..... that their works are and have been for some time running to their full capacity. The indications are that prices of Files have touched bottom, and that if they do not absolutely advance, must rule stiff at the opening of the year.

It is the intention of the well-known house of William Darling & Co. of Montreal, Canada, to open immediately an establishment in Toronto, under the style of A. & T. J. Darling & Co. The Montreal business will be continued as before.

The Howe Scale Company have just shipped per White Star steamer one of their 10-ton Stock Scales, with a platform 22 feet long, for use in the Liverpool stock yards. They have also just shipped to Paris per steamship Canada 100 Scales for use in that market. They are now setting some of their largest Scales at the Hague, and their manufactures have found a ready market in every civilized country on the globe. At the Paris Exposition this year they had a fine exhibit and were awarded high honors. and to this fact they attribute the fresh impetus that has been given to their export trade. In addition to the honors awarded this house at the Paris Exposition, they have taken 12 first premiums at as many different State fairs held during the fall of the present year. In their advertisement on page 25 they illustrate a large line of their

Sargent & Co. have just issued a number of new pages prepared for pasting in their 1877 catalogue. On new pages 135 and 136 they illustrate Sargent's Patent Lever Door Bells, and on new page 137 is shown a handsome line of Levers. They say in a "All Levers and Bells are interchangeable. Customers can make combinations to suit their trade." Bells and Levers are listed, packed and sold separately. The discount is now 60 per cent. from the new list, netting same as 65 per cent. from old list of Bells and Levers complete. Among list of Bells and Levers complete. Among new goods we notice No. 280 Mortise Door Bolt with Nickel Plated Knob and Slide. This Mortise Bolt is applied by simply boring a half-inch hole to receive the bolt and a five-eighth hole for the socket and screwing them in. Both bolt and socket having a thread cut on the barrel, no screws are needed to fasten them.

The Lalance & Grosjean Mfg. Co., No. 80 Beekman street, have issued an illustrated price list of new Toys, to which are added their regular goods in the same line. The following is the list, which is subject to discount 25 per cent.:

Toy Toilet Stand. Per doz. sets. box.

Toy Dinner Service.

No. 11, Stamped Tin, 1 set 42 pieces in box.

No. 12, " including Castor, 1 set 48 pieces in box.

Toy Kitchen Set.

No. 6, Stamped Tin, 1 set 50 pieces in box...

No. 2, " I I 1 12 " " No. 3, " I I 1 18 50 pieces in box... Toy Tea Service, 24 Pieces. No. 14, Jap'd Tray, Tin Cups, &c., Stamped. Toy Tea Service, 24 Pieces. No. 15, Jap'd Tray, Stamped Tin Cups, &c.. 12.00 Per doz. No. 150, Japanned Toy Boats, Ass'd Colors. \$1.80

Toy Tubs. 

No. c13, Tinned. with Glass Bottles, 1 doz. in box, per doz. Toy Tops, 1 doz, in Box. Favorite. Beauty ... \$2.75 No. 10, Jap'd, 1 doz. in pack, per doz......

\$0.85 Hillebrand & Wolf, proprietors of Star Lock Works, Philadelphia, Pa., have issued a handsomely illustrated catalogue and price list, in which they show a large assortment of Trunk Locks, Padlock Hasps, Valise and Bag Locks, Trunk Stays and kindred goods. They also illustrate a Patent Hand-Drill Machine for trunk makers and locksmiths, and a good line of Scandinavian Padlocks in iron and brass; Crab Padlocks in iron and brass, Spring Padlocks, Rim Dead Latches, Door Springs, and their 1878 patent Scandinavian Padlocks with flat Steel Keys. They also show a large assortment of polished Malleable Iron Blank Keys and Flat Steel Blank Keys. An excellent feature in the illustration of this very comprehensive catalogue is that the cuts correspond in size with the goods they represent. The book is printed on heavy paper, and in good, clear

The Hammond Hammer Co. have issued, under date of 17th inst., the following revised price list and discount sheet : PRICE LIST OF H. HAMMOND'S SOLID CAST-STEEL

HAMMERS, Delivered on Board Cars in Hartford, Conn. Adze-Eye Nail Hammers, Patented. 

Adze-Eye Bell-Face Hammers, Patented. 1 lb. 1 lb. 4 oz. 8.00 9.00 Adze-Eye Nail Hammers, Bright.

Adze-Eye Riveting Hammers . 4 OZ. 8 OZ. 12 OZ. 1 lb. 1 lb. 4 OZ. \$4.00 5.00 6.00 7.00 8.00 Plain Riveting Hammers

..... 1 2 3 ...... 4 0Z. 8 0Z. 12 0Z. ...... \$3.00 3.50 4.25 Tack Hammers. No. 1, weight, 4 oz., per dozen.....\$3.50
"Workman" Adze-Eye and Bell-Face Hammers.
No. 3, bright, weight, 1 lb., per dozen....\$6.00
No. 3, black, weight, 1 lb., per dozen....\$5.00

Office of The Hammond Hammer Co., Manufacturers of Cast Steel Hammers, Harrford, Conn., Dec. 17, 1878.)
Gentlemen: We hand you herewith our revised price list to take effect from date.

Our terms, to which we shall strictly adhere in all cases, are cash, and all bills not paid within 30 days from date will be drawn for On all orders amounting to \$100 or over, a

discount of 20 per cent. will be allowed, and goods delivered free on board cars in Hartord, but in no case will freight be allowed. No charge for packing. All orders will be executed in the order of their receipt, and goods will be invoiced at ruling prices at

goods will be havoiced at runing prices at time of shipment.
We shall endeavor to maintain the superiority which the "H. Hammond" patent hammers have attained over those of any other make in market, and we warrant them free from flaws in material or imperfections

in workmanship.

The attention of the trade is particularly called to the improvement made in the "H. Hammond" patent Carpenters' Hammers, which have the inner edges of their claws serrated or provided with teeth for drawing nails, making them the most perfect nail-

pullers in the market.
The "H. Hammond" Bright Hammer is made from the same quality of steel as the patented hammer, but does not have the serrated claw. We shall discontinue making the "Granger" Hammers, and in place of them make the "Workman" Hammer,

The following circular explains itself:

BUFFALO, Dec. 13, 1878. GENTLEMEN: We regret to inform you that on the evening of the 10th inst the roof of our machine and forge shop was burned, which will cause a detention of from three to four weeks. In the meantime, with a good stock on hand and the assist ance of some of our competitors, we shall be able to execute orders promptly.

Very truly, &c., PLUMB, BURDIOT & BARNARD.

Bradley & Co., Syracuse, N. Y., manufacturers of Bradley's Cushioned Helve Hammer, Agricultural Implements and Farm Machinery, have issued a circular under date of 10th inst., from which we ex tract the following:

Our wood shop was destroyed by fire Nov 23. Loss, \$25,000 to \$30,000; covered by insurance, which has been satisfactorily adjusted, and we shall be in complete running order in 15 days. Our patterns, foundry, blacksmith and machine shops, warehouse sample room and office were saved.

#### TRON.

American Pig.-Although we hear of inquiries for round lots for next season delivery, no transactions of any importance are reported. For prompt delivery there is me movement, but the lots are small and difficult to aggregate. We quote as before: Foundry No. 1, \$16.50 @ \$18; Foundry No. 2, \$15.50 @ \$16.50; Gray Forge, \$14.50 @ \$15.50

Scotch Pig.-The sales during the week have been light, even for this dull period in the trade, and no arrivals are reported since our last writing. We quote nominally: Eglinton, \$21; Coitness, \$22 @ \$22.50.

Rails,-There continues to be consider able inquiry for Steel Rails, and we hear rumors of sales of over 12,000 tons during the week. The transactions in Iron Rails compared with Steel are light, and no sale of importance has been reported since we last went to press; it is generally believed, however, that considerable business has transpired within the past few weeks which has not been made public. We quote Steel Iron \$32 @ \$36 at mill, according quality. terms, section, &c.

Old Rails.—There is nothing of impor tance to report in regard to Old Rails, which we quote nominally, \$18 @ \$19 here.

Scrap.-We quote No. 1 Wrought from yard, \$20 @ \$21.

Copper.-Sales for the week sum up 250,000 pounds Lake Superior at 15%\$, the market closing firm at 16\$, which is also the nominal price for Baltimore. No later change in the market price, but the tendency has been rather downward for Manufac-tured and Yellow Metal, but the charter being only 1100 tons for the last half of November slightly steadied the Bar market; at the same time statistics are unfavorable and we want a succession of light charters 

£76 in 1876; £81 in 1875, and £87 in 1874. Manufactured Copper is in only moderate demand, but no change is reported in the combination prices, which are nominal. Yellow Metal dull. Receipts, 190 cases per Weser. We quote: New Sheathing Copper, 26¢; per, 26¢; Braziers, 28¢, and Bolts, 28¢; American Yellow Sheathing Metal, 13½¢; Yellow Metal Bolts, 25¢, and English Yellow Sheathing Metal, 12 1/8 # @ 12 1/4 #, currency,

Tin .- Straits Tin declined for a moment to £60 last week in the London market, but soon after rallied to £62, and is now cabled £62. Io/. Singapore, after temporarily declining to \$18.50, maintains the previous quotation of \$19, and our own market, in view of this prompt recovery abroad, exhibits a good deal of strength, Straits being worth, for large lots, 15½¢@ 15¾¢; English Refined, 14¾¢@ 15¢; and ditto Common, 14¾¢. Shipments from Singapore to the United States during the first half of the current month have been 280 tons, and to to £60 last week in the London market, but current month have been 280 tons, and to England 120 tons. The visible supply in England and Holland on December 1 was England and Holland on December I was 17,452 tons, against 16,438 tons December I, 1877, and 15,456 December I, 1876; on November I it had been 17,426. The November deliveries had been 1600 tons, against 1960 in October. The price of Banca December I was 39 guilders in Holland, against 41 December I, 1877, and 46.50 December I, 1876. Tin Plates have been very quiet. We quote large lines, 40.50 December 1, 1876. The Plates have been very quiet. We quote large lines, ordinary brands, \$\frac{1}{2}\$ box, as follows: Charcoal Brlght, \$5.75 @ \$6; ditto Ternes, \$5.25; Coke Tin, \$5 @ \$5.25; and ditto Ternes, \$4.75 @ \$5. The following is from Liverpool, dated December 2: We are in the midst of a strong market for Cokes, with prices steadily advancing. Makers weap to carry the day this time, and ers mean to carry the day this time, and are more unanimous than ever in their de-termination to sustain the agreement curtermination to sustain the agreement curtailing production, which came into force in the first week of November. Throughout the month buying, though not excessive, has been general, and the larger operators have evinced much anxiety in replenishing stocks.

Already prices have advanced 1/6 @ 1/9 \$\frac{1}{2}\$ box from the bottom, and are daily improving. America, confident in the strength of her position, is slow to move, but even she her position, is slow to move, but even she is gradually realizing the fact, and we have within the past few days been paid the full advance on several important lines for the States. Spring demand cannot fail to be large, for stocks are everywhere run down, and the epinion is general that December will witness a further and not inconsiderable increase in quotations. While Cokes are thus rapidly recovering, Charcoals continue depressed and neglected; we cannot remember a time when they were so entirely ignored, and begin to think Charcoals are being slowly superseded. The lower grades of cheap plates are the only descriptions which receive any attention, and even they are at a discount.

Lead .- Tue market has been very quiet, but as nevertheless strong, although no transactions of note have transpired. Common Domestic commands 4¢, and Refined, 4½¢ @ 4.25¢. The dullness is due to the usual lull close upon termination of the old year. Europe has been looking up slightly, and from late accounts remains firm. There is no change to note in the prices of Manufactured. We quote: Bar, 5¢; Pipe, 5¢; Sheet, 6¢; Tin-Lined Pipe, 12¢; No. 1 Solder, 8½¢; all less 10 % to the trade.

Spelter and Zinc.-Common Domestic Spelter is very dull at 41/4 @ 41/2¢, while the better known Western brands would command 434¢. None but a few sales in a small way are reported. Silesian may be quoted 5¼¢, nominally, and Bergenport from Lehigh ore, 9¢, gold. American Sheet Zinc is moderately inquired for at 5¼¢.

Nickel.—Nothing of special interest has occurred, and we quote Wharton's American as heretofore, \$1.25. While the troubles in New Caledonia lasted there has been no mining of Nickel Ore in the colony. that the French are gaining a stronger foothold there than ever, and will do everything to re-establish prosperity, a great impulse will no doubt shortly be given to this in-

Antimony—Has been quiet at 1114 0 1214¢, according to brand and quantity.

#### COAL

Yesterday's auction sale of 100,000 tons by the Scranton Company is generally regarded in the trade as a declaration of war. So far as the demand is concerned, there was not the least possible use or advantage in pushing so large a quantity of Coal upon the at tidewater \$43, and at mill \$4 114, and the managers hoped by forcing a sale, and so driving prices down, to show those who are opposed to the present combination what low prices are likely to follow a fight, and so make them sick of their opposition. fortunately the Lehigh operators are not easily troubled, and the prospect of low prices with many of them means simply a prospect of suspension. Mr. Swoyer said in conversation yesterday that the Lehigh people would not ship simply for the sake of keeping men at work, but would stop when Lehigh the price went below the point where they could make a profit. Then, just as soon as there was a margin, even of a few cents. the normal price for Baltimore. No later they would ship. The operators in the Lecable quotations have come to hand from London, but we have received particulars by mail to the 7th inst., and find the following passage in the London Mining Journal of that date: "There has not been much change in the market price, but the tendency change has been rather downward for Manufacture." The alarge rounger or a change of basis. This a larger tonnage or a change of basis. we think a mistake. During the past week we have had an opportunity of meeting several of the principal Lehigh operators, and we think that they are united a strong feeling on the subject, and are deand we want a succession of light curves to effect any sensible improvement in prices.

The Indian Exchange is so bad that there is no chance of getting manufactured orders, is

first law of nature," and applied the words to his own company's policy, are gen-erally considered as foreshadowing a lively struggle for a market. Few expressions of opinion have been obtained from other prominent men in the Coal trade, but the general drift of conversation seems to be toward a fight. Prices are, of course de-moralized, though we did hear of one firm moralized, though we did hear of one firm which decided upon quotations yesterday, and printed a circular last evening for distribution to-day. Below we give full particulars of the sale. Mr. F. E. Saward ticulars of the sale. Mr. F. E. Saward kindly furnishes us with the averages, which are made up by quantity and price, and on account, although differing very materially from some of the averages published.

The following are the prices obtained at the 16oth Scranton auction sale, which took place yesterday (18th) noon, 100,000 tens sald.

Size. Steamer	Tons.	Highest.	Lowest. \$2.37%	Average \$2.44
Grate	80,000	2.53	9.20	3.55
Egg		9.70	2.67%	9.67
Btove		3.00	2.50	8.98
Chestnut	15,000	2,42%	.8.00	:2.49)

Below we give Mr. Saward's table of the auction sales for the past year, including the average of the present sale:

#### AUCTION BALES, 1878.

	h't.
Jan. 30 \$3.10 \$3.12½ \$3.14 \$3.57 \$3.	
	.00
	81.
	15
May 29 3.48% 3.45 3.50% 3.75 3.	85
	25.,
	22/4
	3773
	5273
	31%
	07/3
Dec. 18 2.44 2.55 2.67% 2.98 2.	42%

It will be noticed from this table that the average decline from the November sale is no less than 70 cents.

This state of affairs in the Anthracite trade is having a very depressing effect upon Bituminous Coals, although it is too early to say just what the result will be.

#### OLD METALS, PAPER STOCK, &c.

We have no perceptible change to report the condition of the market for Old Metals, Rags, Paper Stock and other junk materials during the period that has elapsed since the date of our last. Trade continues very dull, and prices are nominally unchanged.

The purchasing prices offered by dealers for Old Metals are as follows:

Copper, heavy per lb.	\$0.1	0	
Copper Bottoms	.101/2	0	
Yellow Metal 🍄 D	.10	0	
	.001/2	0	
Brass light	.08	0	
Composition, heavy 41	.1172	0	
Lead, solid	.02 1/2	0	
Tea Lead "	.02	@	
Zinc	.0236	0	
Pewter, No. 1 "	.10	@	
Pewter, 160. 2 "	.c8	@	
Wrought Iron prton.	\$16.00	0	
Light do	9.00	0	
Stove Plate	9.00	0	
Machinery do "	11.00	6	
Grate Bars "	3,50	0	
The prices enment for Par	n Rea	0.3	00 00

follows:	
Canvas, Linen per D.	
Cotton, No. 1	3½c. @
White No :	11/2C. @
10 NO. 2	2 C. @
Seconds ? D.	1 1/8C. @
Mixed, Woolen	2 C. @ 3 C. 616C. @ 7 C.
Gunny bagging "	3 C, @
Jute butts	2 4 C. @
Rentucky Ougging	3 C. @
Book Stock " Newspaper Stock "	1 C. @ 1%C.
Waste Paper and Scraps "	1/2 C. @
Kentucky Bale Rope "	4 C. @
Tarred Shaking	1 C. @ 11/4 C.
CHARGO TACLO	@ 2/40.

#### IMPORTS

Of Hardware, Iron, Steel and Metals into rk, for the Week ending

the Port of New Yor	ю,
Dec. 16, 1878:	
Hardware.	11
Armstrong M. & Sons, Casks, z	1
Boker Hermann & Co. Hardware and cut	1
Burkinshaw W. C.	
Packages, 3 Cases, 2	1
Bruce & Cook, Wire, bdls., 20 Brown William,	
Folsom H. & D.	1
Friedmann & Lauter-	
jung, Mdse., pkgs., 4 Frasse P. A. & Co.	1
Casks, 2 Henderson Bros.	1
Guns, cs., r Hayden Peter	
Casks, 5 Livingstone W. & F.	1
Grindstones, cks., 23 Milliken & Smith.	1

Milliken & Smith, Wire, bundles, 862 Mass, Hesslein & Co. Cases, 2 Noyes, Smith & Co. Gun caps, ca., 2 Remington E. & Sons, Order, Casks, 5 Bars, 11 Bundles, 53 Remington E. & Sons, Gun barrels, cs., 4 Robbins Chauncy & Son, Cutlery, cs., 1 Rogers Henry & Co. Cases, 1
Rauft & Rich,
Wire, cs., 1
Schuyler, Hartley
Graham,
Pictola cs. Pistols., cs., r Smith T. E. & Co. Millstones, 2 Ironware, pkgs., 2 Thompson C. L. Wire rope, cks, 8 Walsham J.

Cases, 5 Witte J. G. & Bro. Casks, 1 Casks, 1 Winchester Arms Co, Mdse., pkgs., 2 Wiebusch & Hilger Hdw. Co. Cutlery, pkgs., 33 Order. Anvils, 86 Arvis, 86
Arms, cs., 3
Wire, bdls., 698
Files, cks., 20
Packages, 10
Chains, kegs, 1
Wire, cks., 1

Iron. Prown Bros & Co. Rods, coils, 348 Irwin R. & Co. Pig, tons, 200 Lang W. Bailey & Co. Bars, 183 Naylor & Co. Pig, tons, 400 Perkins, Livingston & Post,

Cast, cs., 750; Ibs., Too,000 Tons, 370 Seligmann J. & W. Pig, tons, 40 Order,
Packages, 2
Spiegel, tons, 251
Pig, tons, 60
Sheet, bxs., 8a

Naylor & Co. Cases, 7 Sanderson Geo. & Co. Casks, 9 Pundles Cases., r Woodford W. O. Bundles, 244 Bars, 68 Wolffe R. H. & Co. Bundles, 84 Bars, 38

Metals. Byrne Jos. & Co.
Tin plates, bxs.
Bruce & Cook,
Tin, cs., 1
Cort N. L.
Tin and terne pl bxs., 1430 Cortis R. J. Tin and terne plates

Tin and terne plates bxs., 559
Lamarche H.
Zinc, rolled, cs., 9cks, 10
Naylor & Co.
Tin plates, bxs., 5814
Phelps, Dodge & Co.
Tin plates, 102
Black taggers, 41
Tin ingots, 600
Robbins C. & Sons,
Black tag., bxs., 45
Order, equal to the offerings at the following quotations, say: Select No. 1 Foundry, \$17.75 (@ \$18.50; ordinary Lehigh brands, \$17 (@ \$17.50; No. 2, \$16; Gray Forge, \$15 (@ \$16; White and Mottled, \$14.50.

Order, Tin, slabs, 600 Tin, ingots, 11 ingots, b Tin, slabs, 600 Tin, ingots, 1380 Tin, ingots, bbls., 5 Tin pl't's, bxs., 15,679 Black tag's, bxs., 125 Zinc plates, 1007 Tin sheets, bxs., 1 Tin and terne plates,

bxs., 1506
Without Bill of Lading,
Tin, slabs, 219
Tin, ingots, 600
Tin plates, bxs., 1642

as to quality, with one sale of several hundred tons Refined Bars at something over \$32, equal to Philadelphia delivery. Of Hardware, Iron, Machinery, Metals, &c., from the Port of New York, for the

EXPORTS

Canary Islands.

Ag. imp., pkgs. 2

New Zealand.

French West Indies

Havre.

Carriages..... C'ge mtls., pgs

Spelter, slabs, Mach'y, cs.... Carriages, bxs Hdw., cs..... Ag. imp., pkgs Copper, cks... Pl't'd ware, cs

United States lombia

Revolvers, cs.

Revolvers, os. Cartridges, cs. Mf. iron, pkgs Pit'd ware, cs. Mach'y, cs... Needles, cs... Gas fixt., bxs. Nails, kegs... Sh't lead, roll. Wire cloth, cs. Ag. imp. pkgs

Ag. imp., pkgs Hdw., cs.....

Pumps, cs.... 156
Cutlery, cs.... 156
Copper, bxs... 2
Powder, lbs... 2350
Belting, cs... 2
Ag, imp... pkgs 3
Steel, pkgs... 1
Zinc, pkgs... 2
Brastl.

Hdw., cs..... 177 Mf. iron, pkgs 164 Ag. imp., pkgs 75

Mach'y, cs... 5 Nails, kegs... 20 Iron, bdls.... 84

Gun stocks, es

Pumps, pkgs... Cartridges, cs.

Africa.

Mexico.

Hayti.

Fenezuela

Argentine Republic.

China.

302 Hdw., cs.....

PHILADELPHIA.

Pig Iron.—We have again to note a fairly ctive demand at about the same range of

the same character. The general condition

of the trade seems to be somewhat encouraging; there are buyers for all standard

ing; there are buyers for all standard brands at our inside quotation, with a tend-ency on the part of sellers to accept orders

for small lots at the somewhat higher quota

tions, rather than enter large orders involving important concessions. Stocks at the

greater firmness. As usual, there are still some disquieting features to be considered,

one being the unsettled condition of the coal

trade. Anything gained by the furnaces in a reduction in the price of fuel would prob-

ably not be used to strengthen themselves,

but rather to an equivalent reduction in the price of Pig metal, than which nothing could

be more injurious to the trade at large, weakening, as it would be sure to do, the confidence of buyers and opening the way to

renewed and disastrous competition among sellers. The moral effect of disorganization

in the coal trade can scarcely fail to exert

an unfavorable influence on its collatera departments. In the meantime, as stated

the market is steady, and sales are about

Blooms-Continue dull, and it is difficult

to sell large lots. Prices are nominally un-changed, viz.: Blooms (2464 b), \$38 @ \$39;

Northern Ore Blooms (2240lb), \$33 @ \$37 best quality Charcoal Billets (2240 lb), for

best quality Charcoal Billets (2240 b), for wire and steel purposes, \$58 @ \$60; Bars do., \$62.50 @ \$65; Sheet Iron Blooms, cornered (2464 b), \$53 @ \$55; Cold-blast Charcoal Plate Blooms, \$50 @ \$53; run-out Anthrecite \$45 @ \$65; Sheet Iron Blooms, \$50 @ \$50 ; run-out Anthrecite \$45 @ \$65; Sheet Iron Blooms, \$50 @ \$50 ; run-out Anthrecite \$45 @ \$65; Sheet Iron Blooms, \$50 @ \$50; Fun-out Anthrecite \$45 @ \$65; Sheet Iron Blooms, \$50 @ \$50; Fun-out Anthrecite \$45 @ \$65; Sheet Iron Blooms, \$50 @ \$50; Fun-out Anthrecite \$45 @ \$65; Sheet Iron Blooms, \$50 @ \$50; Fun-out Anthrecite \$45 @ \$65; Sheet Iron Blooms, \$65 @ \$60; Sheet Iron Sheet I

Office of The Iron Age, 220 South Fourth St. PHILADELPHIA, Dec. 17, 1878.

Sliverware, cs 1 Hdw., pkgs... 23 Cutlery, case.. 1

Week ending Dec. 17, 1878:

Hamburg.

Rotterdam.

Hdw., cs..... 96 1,037 Ag.imp., pkgs 12 435 Pumps, pkgs. 15 900 Wringers, cs.. 32 1,300 Burners, case. 3 150

Dublin.

Ag. imp., pkgs 363 4.575

Bremen.

Hdw., pkgs... 53 887 Ag. imp, pkgs. 5 330 Belting, cs... 2 500 Silverware, cs 1 3,700

Danish West Indies.

Antwerp.

Glasgow. Hdw., pkgs... 47 Pumps, pkgs. 2 Belting, case... 2 Mach'y, pkgs. 24 Car wheels... 201

British North Amer-ican Colonies.

Coal, tons... 511 2,022 Car wheels... 24 792

Liverpool.

British West Indies.

London.

erware, cs 3

Silverware, cs 3 2,975 Hdw., cs...... 275 Mf. iron, pkgs 25 1,088 Ag. imp., pkgs 25 3,3807 Mach'y, cs... 107 2,538 Pumps, pkgs... 3 361 Pumps, pkgs... 3 361 Steam launch 1 8,000 Belting, cs... 5 1,430

Bristol.

British Honduras.

Hdw. Cs. 105 5.311 Load, pkgs. 23 86 Pumps, pkgs. 4 1,051 Iron, bars. 54 122 Nails, kegs. 75 121 G'dstones. 200 422 Mf. iron, pkgs. 59 1,193 Belting, bales. 2 102 Mach'y, pkgs. 235 10,936 R. R. cars. 3 75

Porto Rico. Nails, kegs... 20

5.311

Nails, kegs... 17

Ag. imp., pkgs

1,759 901

Carbines, box. 1 Hdw., pkgs. . 53

Mach'y, pkgs. 7 Car wheels... 36 Valves, pkgs... 16 Hdw., pkgs... 24

Quan. Value selter, slabs.1393 \$3,70 iw., cs..... 232 8,10

Structural Iron.—There are plenty of inquiries, with indications of some good orders coming on the market at an early date. Prices are a little irregular, however and one large order for 2000 tons Beams for delivery in Indianapolis has been accepted at a material concession from quoted rates. Af the mills are running off their orders rapidly there is naturally some anxiety for new business, but with indications of increas-ing demand after the first of the year there is no reason to expect anything but temporary weakness in prices. We quote as before for small lots: Angles, 2.2¢ @ 2.4¢; Tees, 2.4¢ @ 2.5¢; Beams and Channels, 2.76 @ 2.86.

Plate and Tank Iron.—There is nothing special to report in the general condition of business, and outside of some large transactions in Skelp Iron the market may be considered dull and quiet. The oil pipe line, first mentioned in these columns about two first mentioned in these considered de-to months ago may now be considered de-to finitely settled. One firm in this vicinity has an order for upwards of 3500 tons Pipe, and another something over 2500 tons, whole making a very important item. Th has also been several transactions for Skelp in lots of 100 to 500 tons each, but prices are said to have been cut very low, and in most instances mills at a distance seem to have secured the orders. We hear of an order to-day for 300 tons of Bridge Plate, and inquiries for iron for oil tanks; outside of these there is nothing of importance doing, and prices in all respects are unchanged. We quote as before: Common Plates, 2.2¢ @ 2.3¢; Tank Iron, 2.3¢ @ 2.5¢; C. No. 1, 2.4¢ @ 2.6¢; Shell Iron, 2.75¢ @ 2.9¢; Flange Iron, 3.7¢ @ 4¢; Solid Firebox, 4.85¢ @ 5¢, and Best Bloom, 5.5¢ @ 6¢. 5.5¢ @ 6¢.

Sheet Iron.—Business is falling off considerably, and sales continue to be of small lots for immediate consumption. Prices as a rule are unchanged, but we are advised of a sale of 1000 bundles for March delivery at an advance of \$1 per ton on price realized for a smaller lot, recent deliveries. To a smaller not, recent deniveries. We quote: Common Sheet, No. 20 to 23, 2.8¢ @ 2.9¢; No. 24 to 26, 2.9¢ @ 3¢; No. 27 to 28, 3.1¢ @ 3.15¢; Best Refined Sheet, No. 25 to 28, 3.2¢ @ 3.3¢; No. 22 to 24, 3.1¢ @ 3.2¢; No. 16 to 21, 3¢ @ 3.1¢; Best Bloom Sheets, No. 25 to 28, 5.1¢ @ 5.2¢; Best Bloom Sheets, No. 25 to 28, 5.1¢ @ 5.2¢; No. 22 to 24, 5¢; No. 16 to 21, 4.7¢ @ 4.8¢; Refined Plates or Blue Annealed, 5-16 to 16, 2.3¢ @ 2.4¢; American, R. G., 5-16 to 16, 2.9¢ @ 3¢; Best Bloom, 5-16 to 16, 4.8¢ @ 4.9¢; A Patent Planished, 10½¢; B Patent Planished, 9½¢; Best Bloom Galvanized, 45 % discount; second quality, 55 %; extra discounts for large lots. Bar Iron.-The condition of the trade

not materially changed since date of our last report. A fair amount of orders have been entered, and a still larger amount of business is ready to be placed at a price. The disorganization of the Bar trade is about as complete as it can be, and the opinion is freely expressed that the time has arrived when some concerted action should be taken when some concerted action should be taken to prevent utter demoralization. There seems to be a reasonable prospect of an increased consumption, but unless some basis of values can be agreed upon, neither manufacturer, merchant or consumer are likely to gain much by what ought to be the means of bringing a decided improvement in trade. One of the chief causes of complaint is in the cutting of extras. In other words, there is no regular price for anything, and under the present dispensation there is no means for a seller to know what to ask, or what to refuse, or for a buyer to know what to give, or what to offer. Business has there-fore resolved itself into a kind of private arrangement for every transaction. The buyer makes out his list and obtains bids from competing firms. The lowest bids on each size are taken down and sellers in-formed that the party can buy at such and and such prices. The inference is that the prices as quoted since the beginning of the month. Considering the season there is more than an average business doing for immediate delivery, as also one or two important transactions for deliveries extending through 1879, with numerous inquiries of the same character. The general condition one addressed must either make further concessions, or, if he gets the order at all, it is by special favor. The fact may be that concessions, or, if he gets the order at all, it is by special favor. The fact may be that no one firm had any idea of taking the order at any such price, although separately the items might have been so offered. One would offer one size low, another would be low on another size, &c. The result is demorralization to the seller; he gets the impression that he must meet the market, down goes his price, to be followed immediately by equal competition from his neighbor, and so on all around. If manufacturers were the only sufferers the matter might be tions, rather than enter large orders in the ing important concessions. Stocks at the leading furnaces are sold close up, and if an accumulation can be avoided during the next six weeks there is no reason to think prices were the only sufferers the matter might be left to work its own cure, but dealers and consumers are equally affected. It causes six weeks there is no reason to think places of standard brands are consumers are equally affected. It causes will be lowest point of depression had uncertainty as to values, and dissatisfaction though the lowest point of standard brands are in every direction, and so long as this consumers are equally affected. a fraction higher than they were a month dition of affairs continues it is almost imposago, and are held, comparatively, with much sible to expect permanent improvement in sible to expect permanent improvement in business. A uniform classification seems to be an urgent necessity, and as we have heard frequent expressions from leading firms of a desire to have the matter carefully considered, we make this reference to it, and would be glad to be the medium of any communications bearing on the subject. The present seems to be a subject. The present seems to be a favorable time for action, and we trust something will be done at once. In this sometring will be done at once. In this connection we may also refer to another need of the trade, viz., an Iron exchange. Such an institution would be invaluable to the Iron interests. Other trades have their exchanges, and regard them as indispensable. The enormous interests connected with the Iron trade would be vastly strengthened by such an organization, while in point of convenience it could scarcely be overesti-mated. By it business would be stimulated; buyers and sellers would be attracted to it as a common center, instead of being scattered over miles of territory as at present. The trade admit the necessity of such an organization; many of the leading capitalists

> realized early in the new year. Steel Rails.-The market is somewhat irregular, owing to the eagerness of one or two mills to obtain certain contracts, which

> desire it and promise to support it, and we trust it will be one of the good things to be

be quoted as firm as it was a week ago. The position has been defined in our late reports, and so far as can be seen there is still every reason to think that the business of the enreason to think that the business of the en-suing year will be equal to the capacity for production, although buyers of large lots are holding off longer than usual, hoping by so doing to place their orders on better terms than can be done at the moment. It is understood that concessions have been made in recent transactions, but as the mills are in recent transactions, but as the mills are filling up with work it is scarcely likely that prices will yield any further. Buyers are reluctant about paying an advance on rates current a year ago, but there is little doubt they will have to do so, as the Rail trade is in a much better condition than it was at that time. We continue our late quotations, say \$41 @ 43 at mills, with sales for upward of 10,000 tons at slightly lower rates than were named a week ago.

Steel Blooms.—Slabs are quoted at \$42.

Steel Blooms.-Slabs are quoted at \$42 @ \$46, and Billets at \$48 @ \$50.

Iron Ralls.—There is a continued good demand, and the mills are entering week by week about as many Rails as they can turn out. Some little falling off in the demand may be looked for at this season, but inquiries are numerous, and if the collaterals are acceptable several good-sized orders may be placed at an early date. Prices are un-changed, say \$32.50 @ \$35 at mill, accord-ing to location, section of Rail and terms of

Old Rails.-The scarcity recently noted seems to have become more general, and at the moment we do not hear of any spot lots being offered, while buyers are looking for supplies with considerable anxiety. In the absence of actual transactions prices are nominal, but \$20 @ \$20.50, cash, would be freely paid for prompt deliveries of good average qualities.

Spikes.-The demand continues good, and Findes.—The definant continues good, and prices steady as follows:  $5\frac{1}{2} \times 9.16$ ,  $2\frac{9}{5}$ ;  $\frac{1}{4} \times 4$  and longer,  $2.3\frac{9}{5}$ ;  $7.16 \times 4$  and longer,  $2.4\frac{9}{5}$ ;  $\frac{1}{2} \times 3\frac{1}{2}$  and longer,  $2.7\frac{9}{5}$ ;  $\frac{1}{2} \times 3$  and longer, 2.8¢.

Scrap Iron.-The market is quiet, but very little stock is offered, and full prices are obtained for selected qualities. We quote: Cast, \$13.50 @ \$15; Wrought, \$20 @ \$22.50.

\$22.50.
Nails.—There is more doing, and buyers are more disposed to place large orders. We note sale of one lot of 4000 kegs Pottstown Nails, and numerous smaller lots at about

#### PITTSBURGH.

Office of The Iron Age, 77 Fourth Avenue, 1 PITTSBURGH, PA., Dec. 17, 1878.

The weather continues wet, and the country roads in all directions are in a very bad condition; and, as might be expected, country merchants are ordering no more goods than they can help. Particularly is this the case with those located at points in the interior and who are dependent upon wagon terior and who are dependent upon wagon transportation. In some sections it is just as much as a team can do to get along with an empty wagon, and this, in connection with the close of the year being so near at hand, renders it almost certain that general business will continue dull for several weeks to come. Indeed we do not look for much activity until the latter end of next month, when it is usual with many large buyers of manufactured goods to place their orders for stock for the spring trade. Of course we may be disapinted, but we look for a heavy demand for all the leading manufactures as soon as the spring trade opens up, and our reasons, we think, are well founded. Stocks both in the hands of jobbers and consumers are known to be light. The production during the past year has been confined mainly to meeting ctual engagements, manufacturers generally having made it a point not to as times are improving the probability is that as times are improving the probability is that
there will be an increased consumption in
1879, as compared with 1878; and, moreover, as the cost of production has been reduced to the very lowest limit and is more
likely to be increased than diminished,
buyers need have no apprehension about
making contracts either for present or
future delivery at current rates. Hence,
while business is dull at present the outlook always look on the bright side of everything will be realized.

Pig Iron.-There has been little or no change in the situation during the past week. Business continues of a hand-to-mouth character. Consumers, in view of the close of the year being so near at hand, are buying only as their immediate actual wants require, and knowing that any attempt to force the market would be productive of a good deal of harm without accomplishing any good, are making no particular effort to sell; thus, to use an old phrase, there is a regular stand-off. Business in Pig Iron is nearly always very quiet at this particular time, hence the depression now prevailing creates no surprise, and it is not expected that there will y improvement in the demand until the middle of next month or after stock-taking has been completed. In regard to value there has been no quotable change for some time; and while the outlook at for some time; and while the outlook at present is not very rosy for an immediate advance, producers are hopeful of being able to realize better prices before long. Predictions are made that there will be an advance established of from \$1 to \$2 within the next 90 days; but while it is to be hoped that these predictions may be realized, the that these predictions may be realized, the indications are not very encouraging, as even now consumers allege that the raw ar-ticle is higher, relatively, than the products. that there is very little probability of any decline. At current rates producers, under the most favorable circumstances, can but little more than hold their own, and the cost of production begins to be produced to the of production having been reduced to the very lowest limit, is more likely to be in-creased than diminished. As stated in our last report, coke has appreciated in value recently. Lake Superior is said to be held with considerable firmness with an upward tendency, and the same is equally true both of skilled and un-skilled labor. Bituminous Coal-Smelted Irons thracite, \$45 @ \$47.50.

Muck Bar.—There is not much doing and sales are difficult to make in quantity, unless at low prices. Sellers ask \$30 @ \$33.

The bottom contracts, which desirable. This skilled labor. Bituminous Coal-Smelted Irons has led to a slight shading in prices, which others may possibly follow, so that in the mean time the market cannot will, the outside figure for all ore Red

Short. Coke Irons-\$18 @ \$19, 4 mos., for Foundry, and \$16.50, 4 mos., for Mill. Bessemer continues very quiet and unchanged, at \$20, 4 mos. Charcoal Blooms, \$50 @ \$60,

Manufactured Iron,-The demand for Manufactured Iron.—The demand for all kinds of Manufactured Iron has been light all this month as compared with No-vember, and no material improvement is looked for until the spring trade opens up. If the spring business opens up anything like what is generally expected, an effort will no doubt be made to obtain better prices, and it is to be hoped that it will be successful, as there is no money in the business at current rates. Those mills using an inferior article of the raw material may have a small margin for profit, but others who are determined to keep up the reputation of their Iron and are using the best brands of Fig complain, and not without cause, that they are doing no good. One very cogent reason brought forward by those who look for an advance soon, lies in the fact that the cost of production has been reduced to the very lowest limit, and is more likely to be increased than diminished, and another is that the consumption in the business at current rates. Thos ished, and another is that the consumption in 1879 is likely to exceed that of 1878. We continue to quote 1.75¢, 60 days, for Bars as a basis, although rumors prevail that in some instances the base quoted is being shaded slightly. The supposition is that any-one selling below the quoted base either has an inferior article or is hard up for money, one or the other.

Nails. - There has been no change in the situation since the date of our last report. Business continues quiet, as it nearly always is this month, and it is worthy of note that even at the recent advance of note that even at the recent advance Pittsburgh manufacturers generally are not particularly anxious about selling, and intimations prevail that a further advance before long by the Western Association is not improbable. A regular monthly meeting of the association takes place here to-morrow, when it is probable the subject of "pooling," brought forward at the last meeting, will be further discussed and possibly something definite arrived at. If anything imthing definite arrived at. If anything imthing definite arrived at. If anything important is accomplished it will be forwarded as usual to The Iron Age by wire. We continue to quote at \$2.15, 60 days, 2 % off for cash, with a deduction of 10¢ \$\text{?}\$ keg on orders for 200 kegs and upward.

Steel .- While orders have fallen off considerably within the past few weeks, the mills generally still appear to have about all they can do, and prices are maintained, although owing to the decreased inquiry an easier feeling prevails. Machinery Steel, easier feeling prevails. Machinery Steel, according to quality,  $4\frac{1}{2}\phi$  @  $7\phi$ ; Tool do.,  $10\frac{1}{2}\phi$  @  $12\frac{1}{2}\phi$ ; Tire,  $4\phi$  @  $6\phi$ ; Boiler Plate,  $6\frac{1}{2}\phi$  @  $7\frac{1}{2}\phi$ ; Plow Steel,  $4\phi$  @  $7\phi$ ; Spring Steel,  $3\frac{1}{2}\phi$  @  $6\frac{1}{2}\phi$ ; Steel Billets,  $\frac{8}{4}$ 4 @  $\frac{8}{4}$ 7.50; do. Blooms,  $\frac{8}{4}$ 2 @  $\frac{8}{4}$ 2.50; do. Rail and Bloom Ends,  $\frac{8}{3}$ 32, all cash at mill. mill.

Rails.-There continues considerable in-Rails.—There continues considerable inquiry for Steel Rails, especially for future delivery, and the market is quoted firm at \$44, cash, at mill. New Iron Rails firm and tending upward. Old Iron Rails continue in light supply here, the few coming forward, having been sold to arrive, are being placed on former contracts. We can report a sale of 500 tous at \$23 per gross ton, cash. The recent advance has, as might be expected, curtailed the demand.

Wraught Iron Pine.—A secret meeting

Wrought Iron Pipe.—A secret meeting of the butt welders took place here last week, and nearly all the mills are said to have been represented. Up to this writing, however, your correspondent has been unable to learn certainly as to what was done; the reports are conflicting. The daily the reports are conflicting. The daily papers have it that prices were advanced lightly, or rather that discounts were reduced, but your correspondent was in-formed, by a representative of one of our largest pipe mills, that in this particular respect nothing definite was done

Scrap.-There is a fair business for the eason, although it has fallen off somewhat as compared with last month. Dealers continue to complain that Scrap is too low here Dealers conmaking contracts either for present or as compared with cost at sources of supply, future delivery at current rates. Hence, while business is dull at present the outlook for the spring trade is encouraging, and it is hoped that the expectations of those who \$19.50 per gross ton, cash. We quote:

Car Wheels, gross ton	\$10.00 @ 10.50
Ne. z Railroad, Wrought, net top	21.00 @ 22-00
Car Springs, net ton	30.00 @ 31.00
Car Axles	27.00 @ 29.00
DOLEL SCHID	21,00 @ 22,00
Machinery Metal, gross ton	15.00 @ 16,00
Wrought Turnings, net ton	14.00 @ 15.00
Cast Borings, gross ton	10.50 @ 11.00
Blacksmith Scrap, net ton	20.00 @ 21.00

Window Glass.—Business has fallen off very perceptibly within the past few weeks, and the probability is that dullness will prevail for the next two months. Our Pitts burgh manufacturers have done more business this year than last, but at the prices ruling they have not made much money. While it is admitted that at current rate there is little or no margin for profit, it is not deemed best to put up prices for the present, as it is feared that it would tempt some factories that have been out the past year or more to start up and increase production. Discounts are fairly quotable at 75 and 5 to 75 and 10 for car-load lots, and 75 in a jobbing way.

Coal.-With continued liberal shipments stocks in the down river markets are accumulating, and with a light consumption and nearly always some one whose financial necessities compels him to realize, prices necessities compois nim to realize, prices are weak and lower. The price afloat at Cincinnati is 61/26 @ 63/46 per bushel, while here it is worth about 41/26, from which it is evident that the margin is small, as it leaves only 21/26 per bushel to pay cost of leaves only 23/27 per busher to pay cost of transportation (500 miles), commissions and other expenses. The trade are hopeful that the river will freeze over soon and remain so for a couple of months, thereby shutting off the supply and preventing a further ac-cumulation of stock, and in this is their only hope of better prices.

Coke.-There is no abatement in the de manufacturers are all full of orders and prices continue to tend upward, although without quotable change as compared with the date of our last report, \$1.05 @ \$1.10 per ton, delivered free on cars at

#### CHATTANOOGA.

Office of The Iron Age, Market and 8th Sts., (CHATTANOOGA, Dec. 24, 1878.

Horbitable Foundry.

Hanging Rock C. C., No 1.

C. C., No 2.

Alice, No. 1 Extra, I. M.

No. 1 N. O.

Hanging Rock Coke and S. C., No. 2.

Virginia Coke, No. 1.

S. C., No. 2.

Hocking Valley S. C., No. 1.

S. C., No. 2.

Wonge Rons. There is no falling off in general busine in the South. The railway lines are crowded with freights both ways. River trade is rapidly picking up, though owing to light crops in most of our river valleys, on account of summer droughts, this branch of the carrying trade promises to be light this season. In the general iron trade there is nothing new to report. Some inquiries for muck bar from western points have been received during the week and some sales effected. Crude metals are steady and no pressure on the market by holders. The week began with heavy and continuous rains, the middle was bright, fair and frosty, the end is amid another deluge of water. in the South. The railway lines are crowded

water.

Pig Iron.—The market is without any special feature of interest. In my last week's report the types make me say, "Holders are crowding the market." Put in the "not" before crowding and we shall have it right; and this state of the case continues. Nobody seems at all anxious to sell, though consumers find no trouble in supplying their wants at quotations. We quote: Coke Irons, No. I Foundry, \$17.50 @ \$18; No. 2, \$15.50 @ \$16; Gray Forge, \$13.50 @ \$14; White and Mottled, \$11.50 @ \$12. Hot\_Blast Charcoal—No. I Foundry, extra, \$20 @ \$21; ditto, \$18 @ \$20; No. 2 Foundry, \$16 @ \$18; Gray Forge, \$15 @ \$17; White and Mottled, \$15. Cold Blast Charcoal—Car Wheel Metal, \$22.50 @ \$27.50; do., Extra Standard, Gray Forge, \$15 @ \$17; White and Mottled, \$15. Cold Blast Charcoal—Car Wheel Metal, \$22.50 @ \$27.50; do., Extra Standard, \$24 @ \$29.50; Forge, \$17 @ \$22.

Muck Bar—\$27 @ \$34. Old Rails, \$18 @ \$18.50. Old Car-wheels, \$18.

Ores.—Brown Hematite, 50 to 56 %; per ton, \$1.75 @ \$2.25. Red Fossiliferous, 50 to 56 %; per ton, \$1.70 @ \$1.90. The above prices for ores delivered in Chattanooga on cars or on the wharf from flat boats. We note a contract for the delivery of 1000 tons here from the fossiliferous beds up the Tennessee River, on private terms.

Hanging Rock, Cold-blast 20,00 @ 30.00 Alabama and Georgia, Cold-blast 28.00 @ 29.00 Kentucky, Cold-blast 25.00 @ 30.00 W. B. Belknap & Co., Iron and Steel mer-Nails.-Market continues the same as at last report. We quote at \$2.25 rates, usual discount on job lots.

Manufactured Iron,-Trade continues Manufactured Iron.—Trade continues good. Mills are pushed to their full capacity and prices remain firm. Spikes, Bolts, Fish Plate and other railroad supplies continue in good demand. Bar we quote at \$2; Railroad Spikes, \$2.50; Light Rail, \$2.25; Track Bolts, \$3; Trestle Bolts, \$4.

week, largely chargeable to the bad weather, heavy and persistent rains and muddy country roads. Prices are firmly maintained. In Nails there has been unusual activity in spite, or possibly in consequence, of the Coke.—Washed foundry, 13¢ to 15¢ per bushel, free on cars in Chattanooga. Furnace Coke in full supply at \$2 @ \$2.50 per

Coal .- Strictly lump for household use, delivered, 12½¢@ 14¢ per bushel. Run of mine to manufacturers \$1.50 @ \$1.75 per

Pig Lead .- From local mines 46.

Ingot Copper.—The slight advance realized is maintained. We quote at 18\( \ell \).

Iron Rails.—The demand is fair, mostly for rerolling. Holders are firm at \$34 per

#### ROSTON.

DEC. 14.-Pig is very dull, and conces DEC. 14.—Pig is very dull, and concessions from quoted figures could probably be obtained. At the shipping ports, Foundry No. 1 is quoted at \$16.50 @ \$17; Foundry No. 2, \$15.50 @ \$16.50; Gray Forge, \$14.50 @ \$15.50. There is nothing new in the market for Scotch Pig. Eglinton is still held at \$22.50, Glengarnock at \$24. Gartskerie at \$25 and Pig. Églinton is still held at \$22.50, Glengarnock at \$24, Gartsherrie at \$25 and Coltness at \$26. Nails have been in fair demand, jobbing now at \$2.25 @ \$2.30. For 100 keg lots \$2.20 is the price. Sheet is selling at 3\$\phi\$ @ 3\$\phi\$ @ \text{ib}. Russia is quiet at 10\$\phi\$\phi\$ @ 1\$\pi\$. We quote English Spring Steel at 7\$\phi\$ @ \$\phi\$\phi\$ of Qi 1\$\phi\$. We quote English Spring Steel at 7\$\phi\$ @ \$\phi\$\phi\$ of Older [12\$\phi\$ for Cast; 10\$\phi\$ @ 12\$\phi\$ for Machinery; 14\$\phi\$ @ 15\$\phi\$ for Cast; 10\$\phi\$ @ 12\$\phi\$ for Cast; 3\$\phi\$ for for future delivery on private terms. In Plate Iron there continues to be a fair de-Plate Iron there continues to be a fair degree of activity in Tank, which is selling steadily at 2½¢. Boiler Plate is very dull, quoting 2½¢ for No. 1 Charcoal, 2¾¢ @ 2¾¢ for No. 1 Shell, and 3¾¢ for Flange. Merchant Bar jobs at \$1.65 @ \$1.75. Copper is dull but firm, and at the close we quote 15½¢ @ 16¢ for Ingot. For manufactures we quote: New Sheathing at 24¢ @ 26¢. The outside price rules in small transactions, but large buyers are purchasing at the inside figure. Bolts are quoted at 26¢ @ 28¢. Vellow Metal Sheathing. is dull but firm, and at the close we quote 15%\$\overline{e}\$ (@ 16\$\overline{e}\$ for Ingot. For manufactures we quote: New Sheathing at 24\$\overline{e}\$ (@ 26\$\overline{e}\$. The outside price rules in small transactions, but large buyers are purchasing at the inside figure. Bolts are quoted at 26\$\overline{e}\$ (@ 28\$\overline{e}\$. Yellow Metal Sheathing continues easy, quoting 12\overline{e}\$ \overline{e}\$ (@ 13\overline{e}\$ for English, and 13\overline{e}\$ (@ 13\overline{e}\$ for English, 20\overline{e}\$ (@ 20\overline{e}\$ Bar Lead, 43¢; all of these excepting Pig are subject to the usual trade or 10 % discount. Antimony is firm and fairly active, and we quote 12¢ @ 12½¢. Spelter continues firm, with little disposition on the part of buyers to sell on the spot at less than 4½¢ @ 5¢ for 10-ton lots. Tin is dull and unsettled. We quote: Straits, 15½¢ @ 15½¢, gold. We quote Plate: Charcoal, I. C., \$5.75 @ \$6; Coke, \$5 @ \$5.25; and Charcoal Terne, \$5.40 @ \$5.50, gold.—Commercial Bulletin. Commercial Bulletin

#### CINCINNATI.

Messrs. E. L. HARPER & Co., under date of Dec. 16, write us as follows: The trade, while not equal in volume to the fall business, is holding up much better than was anticipated for this season, so near the last of the year. Buyers do not show much disposition to anticipate their wants, and especially at this ticipate their wants, and especially at this time of year, when the semi-annual invoicing time is so close, they are generally disinclined to take hold to greater extent than required. Under these circumstances to have a good, steady and quite general demand is an encouraging feature. We have no material changes to report either way in current quotations. Prices are generally firmly adhered to, and there are very few, if any, special lots of standard quality offering:

Messrs. R. C. Hoffman & Co., Iron and Commission Merchants, No. 23 South Fred-erick street, report the Pig Iron market as follows, under date of Dec. 16: Below we quote present prices for Pig Iron and Blooms, with very light stock on hand, and prices

BOT-BLAST FOUNDRY.

FORGE IRONS.

CAR WHERE AND MALLEABLE. | Hanging Rock C. B. | 30.00 @ 31.00 | Cherokee C. B. | 28.00 @ . | Southern and Western Brands | 27.00 @ 28.00 | 28.00 | 27.00 @ 28.00 | 28.00 | 27.00 @ 28.00 | 28.00 | 27.00 @ 28.00 | 28.00 | 27.00 @ 28.00 | 28.00 | 27.00 @ 28.00 | 28.00 | 27.00 @ 28.00 | 28.00 | 27.00 @ 28.00 | 28.00 | 27.00 @ 28.00 | 28.00 | 27.00 @ 28.00 | 28.00 | 27.00 @ 28.00 | 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 28.00 | 27.00 @ 27.00 @ 27.00 | 27.00 @ 27.00 | 27.00 @ 27.00 | 27.00 @ 27.00 @ 27.00 | 27.00 @ 27.00 | 27.00 @ 27.00 @ 27.00 | 27.00 @ 27.00 @ 27.00 | 27.00 @ 27.00 | 27.00 @ 27.00 @ 27.00 | 27.00 @ 27.00 @ 27.00 | 27.00 @ 27.00 @ 27.00 | 27.00 @ 27.00 @ 27.00 | 27.00 @ 27.00 | 27.00 @ 27.00 | 27.00 @ 27.00 | 27.00 | 27.00 @ 27.00 | 27.00 | 27.00 | 27.00 | 27.00 | 27.00 | 27.00 | 27.00 | 27.00 | 27.00 | 27.00 | 27.00 | 27.00 | 27.00 | 27.00 | 27.00 | 27.00 | 27.00 | 27.00 | 27.00 | 27.00 | 27.00 | 27.00 | 27.00 | 27.00 | 27.00 | 27.00 | 27.00 | 27.00 | 27.00 | 27.0

LOUISVILLE.

Messrs. GEO. H. HULL & Co., under date of Dec. 16, write us as follows: The demand is better than last week. The general impression seems to be that prices will be bet-

ter after January 1st, and some are buying in anticipation of this. The usual time, 4 months., is allowed on the quotations below:

19.00 @ 20.00 1 Southern, Charcoal ... 18.00 @ 18.50 16.50 @ 17.00

MILL IRONS.

No. 1 Charcoal, Cold-short and Neut'l. 16.50 @ 17.00
No. 1 Stonecoal and Coke, Cold-short and Neutral. 16.50 @ 17.00
No. 2 Stonecoal and Coke, Cold-short and Neutral. 15.50 @ 16.00
No. 1 Missouri and Indiana Red-short. 20.00 @ Mi.00
White and Mottled, Cold-short and Neutral. 14.50 @ 15.00

CAR WHEEL AND MALLEABLE IRONS,

chants, Nos. 113 and 115 West Main street, under date of Dec. 16, report a very quiet

ST. LOUIS.

Collins, Iron Commission Merchants, 217 North Third street, under date of Dec. 12:

There is no change to note in our market since last report. Market dull and prices about the same. Old Rails are in fair de-

COLD-BLAST CHARCOAL-All Numbers.

Missouri Stone Coal. \$21,00 \$20,00 \$19,00 \$17,00 Missouri Charcoal. 20,00 19,00 18,00 17,50

Alice Hanging Rock No. 1. No. 1. No. 2. Moxahala Blackband Ores. 22,00 21,00 19,50 19,00

RICHMOND.

Mr. Asa Snyder, Iron Merchant and Furnace Agent, writes as follows under date of Dec. 16: There exists a fair demand for Foundry and Forge grades of Pig Iron, also for Wrought Scrap and Old Rails. Quotations below represent the market.

Va. Warm-blast Cold-short.
Va. "Red-short Red-short Cast "(machinery).
sichmond Refined Bar Iron.
Horse Shoes per keg. "Mule "Old Dominion Nails, Standard Size, When Cast "Red-short Red-short Red-

Freights to Philadelphia, \$1.40 per ton of 2240 Bs., by sail.

Freights to New York, \$1.60 per ton of 2240 lbs.,
by saik.

BALTIMORE. Mr. W. N. WYETH, Iron and Steel Mer-

chant, 46 and 48 South Charles street, reports us the following prices under date of Dec. 16: Trade rules inactive and quiet as

we approach the end of the year, which is usually the case at this season; otherwise

ed Bar Iron, 1 to 6 wide by 16 1.85 @ 2 \$

" 1.85 @ 2 ♥

the market remains unchanged.

to 1 thick.

Refined Bar Iron, 1 to 4½ wide by 1½ to 2 thick.

Refined Gar Iron, ½ to 2, Round

Refined Bar Iron, ¾ to 2, Round and Square.
Hoop iron, ½5 wide and upward.
Band Iron, from 1½ to 4 in. wide.
Horse-shoe Iron
Norway Nail Rods
Black Diamond Cast Steel, Flats,
Squares and Octagon, ordinary
sizes.

Machinery Steel
ast Spring Steel.
Homogeneous Steel Plate.
Common Horse Mails
R. R. Spikes, 5½ %7-15.

Perkins Horse shoes, ¾ keg of 100 lbs.

Mule shoes.

ala Biackband 21,00 20,00 19,50 18,00

26,00

No. z. No. z. Mill. and M't'ld.

Specially reported by Messrs. Spooner &

advance.

mand and very scarce.

Alabama.
Assorted Bar Iron
No. 1 Wrought Scrap.
Heavy Cast Scrap.
Light

Tenn. Coke, very soft

cash.

Hanging Rock, No. r C. C.
Hanging Rock, No. r Coke.
Longdale, No. r Coke.
Als. and Tenn. No. r C. C.
Rod-short, No. r Coke.
Cold-short, No. r Coke.
Old-short, No. r Coke.

Virginia		10										26.00 @	
	eite No.	1								0		19.00 @	
6.6	No.	2							0 0			18.00 @	19.
8.6	No.	3										16.00 @	17.
**	Mot	fled	and	1 1	Vh	ite	8.					13.00 @	14.
Charcos	I, C. B.	Blo	om	8				*		×	6 0	50.00 @	52.
8.0	0.0	Bil	lets									52.00 @	55.
Refined	Blooms											43.00 @	45.

# Our English Letter.

Review of the British Iron, Steel, Metal and Hardware Trades.

(From our Regular Correspondent.) LONDON, ENG., Dec. 2, 1878. THERE IS NO CHANGE

for the better in any single department of business, and it is now quite plain that it is too late to expect any such amelioration too late to expect any such amelioration during the but brief remaining twelfth of the dull old year. There are still those, among them Mr. Mark Firth (head of Thomas Firth & Sons, Sheffield), who take a hopeful view of the situation, and tell us that they think we have reached the bottom Coke... 19.00 @ 20.00
No. 2 Hanging Rock, Stonecoal and Coke... 18.00 @ 18.50
No. 1 Southern, Stonecoal and Coke... 18.50 @ 19.00
No. 2 ... 17.50 @ 17.50
"American Scotch"... 18.00 @ 17.00
Silver Gray... 16.00 @ 17.00
No. 1 Charcoal. Cold-short and Novel of the depression, with every likelihood of mounting the hill of prosperity beyond almost immediately. Everybody hopes this almost immediately. Everyhody hopes this may be the case, but we have been so frequently deluded during the past year or so that we have almost lost-dil heart, and prefer to take matters just as and when they turn up in preference to indulging in aerial architecture. architecture.

THE CURRENT FAILURES

are not so numerous as was the case a few weeks ago, so that there is some reason for be-lieving that we have at length ascertained the extent of the Glasgow Bank complications, and that we may reasonably entertain the hope that no further "big smashes" will have to be recorded. One such large impending collapse is very widely talked about in a certain large town in the Midland counties, but from the information in my possession I am led to infer that the effect of the stoppage—when it comes, as it will do presently—will have been almost wholly presently—will have been almost wholly discounted. In London and in Lancashire—where, by the by, a Rochdale private bank has come to grief, owing to the alleged stockbroking recklessness of one of the partners—there are said to be some ricketty concerns, but as they are mostly outside the domains of iron and steel I need not go into

being manifested in

#### THE TARIFF QUESTION

by all classes of persons in our communities. There are diverse views on the point, but I think I am within bounds in stating that among the manufacturers the reciprocity theory finds great favor. These gentlemen, as a matter of course, feel the pinch of presas a matter of course, feel the ounch of present circumstances more directly and more severely than the shopkeeping and purely commercial men, so that their rejection of the "whole hog" free trade idea is easily explained. The Liverpool Shipping Trades Council, initer alia, have adopted this new theory, their origins being that the existing Council, initer alia, have adopted this new theory, their opinion being that the existing depression of business is "entirely owing to the admission of immense quantities of manufactured goods from the Continent and America duty free," and that "though free trade may be good in many respects, the English workman should not be required to starve by having his industry filched from him by the foreigner." This, you will admit, is rather plain language, but

THE CHANCELLOR OF THE EXCHEQUER (Sir Stafford Northcote), does not agree with to the Liverpool Council just named, being that "the causes of the depression must be sought for in other causes than the action of free-trade principles, and fears that the remedy would hardly be found in reciprocal free trade." Sir Stafford, as you know, is a conservative, hence we might have been disposed to excuse him if he had countenanced the reciprocity advocates' plan. On the other hand the great Liberal,

MR. GLADSTONE, MR. GLABSTONE,
in replying to the same people says: "The
increased benefit from reciprocity in free
trade would be very great." "Free trade,"
he says, "with very partial reciprocity has,
conjointly with improved locomotion, quadrupled the trade of the country and increased
the rate of wages 30 to 50 per cent." Notwithstanding this appraisant approximation. withstanding this apparent approval of re-ciprocity, I doubt very much whether Mr. Gladstone or any of the other leading Lib-erals would vote for its adoption if the ques-tion, were resided in Paylornovit I tion were raised in Parliament, I am quite sure, at all events, that the free-trade banner still commands an enormous number of adherents, and that when the matter comes within the arens of possible legislation we shall see a most desperate effort to sustain it in exactly the acceptance of the control of the contr tion we shall see a most desperate effort to sustain it in exactly the present position. That the point will attain that dignity will be the case I have little or no doubt, and I should not be surprised if we found it a "burning question" within the next few months. How reciprocity would work out in practice would have to be seen. It would contribute he would more than the surprise of the surpri urable superiority as the carrying and monetary medium for the whole world

#### EXPORT TRADE

is the main thing with us in the current discussion. There are those who tell us that they don't care a —— for foreign business, alleging that they would be content to let us lived the interest of the content to let us lived t live and thrive on the interest we receive for our investments in all kinds of under-takings in different parts of the globe. They do not explain how we are to obtain imports in a cheap way when our outward carrying business has been destroyed, nor do they business has been destroyed, nor do they demonstrate the mode in which we can carry on our international commerce in its absence. They forget the momentous circumstance, that at the present time all the world practically pays through London. If a man in South America buys from New York he pays through London; if a merchant in Genoa buys from Japan or Geylon he must remit via London, and so on ad infinitum. How, then, say those who see the urgent necessity for the sustention of our export trade, can this yest system be kent. export trade, can this vast system be kept on its legs if we let our foreign business die away? As yet there is no reply.

#### THE GERMAN RAIL MAKERS

evidently know how they can uphold their interests abroad as well as at home. The Ironmonger contains a special report, showing that in a recent competition for 6738 tons of rails required by the Upper Silesian Railway, the lowest German tender £8. 5/) was accepted, although Bolckow, Vaughan & Co., of Middlesboro', tendered at £6. 13/ This was at home, where the combined German mills ruled the roast. On the other hand, abroad—in Northern Italy—they quoted steel rails at £4. 19/, against £8 English offers! so that they can sell £3. 6/ per ton cheaper abroad than at home! The enterprising Doutzehars also Grand the selection of the contraction of the selection of the selection

concerns, but as they are mostly outside the domains of fron and steel I need not go into details.

IN THE LEADING CENTERS

of the iron and coal industries the previously reported serious state of affairs among the operatives continues in a totally unrelieved measure; indeed at Glasgow, Sheffield and certain other smaller places the distress is most deplorable, hundreds—I might say thousands—of the men and their families being almost wholly without clothes and food.

Relief committees are doing what they can in a provide the necessaries of life, but their labors do not as yet appear to have overtaken the misery with which they have to deal. The heartrending condition of these poor people is perhaps the principal reason for the increased interest which is just now being manifested in

with Spain, the percentage of duty against Great Britain being, for pig iron, 24; for manufactured iron, 43; and for iron and steel rails, 20 per cent. Our government had

are in the main unaltered, dulness being everywhere the rule of the day. The lighter industries are in all probability better employed than the heavier branches, but stocks are so heavy that something beyond the possible season spurt will be needed to bring things up even to an ordinary level. The skate, electroplate and "presentation" branches ought, now to be busy, whereas skate, electroplate and "presentation" branches ought now to be busy, whereas activity is the exception rather than the rule. One house alone is said to have 30,000 skates in stock. In the razor trade a contract for 13,000 razors is on offer, but the remarkable statement is made that if secured there are not sufficient forgers in the town to turn out the work in a reasonable time! That I don't believe to be true. The wire mills are busy, William Cooke & Co. having obtained orders for £15,000 worth— 2000 for the government, on exceptional terms. In the iron and steel departments there is very little being done. The rail mills are fairly well engaged on Indian, Russian and home orders.

STAFFORDSHIRE AND BIRMINGHAM

certainly be much more cumbersome than the existing system, and would above all enabled to form an opinion there can be not things tend to diminish our present immeas—doubt that the artisazs at Birmingham ar

much better off than their brethern at Sheffield and other towns. There is, in short, a very respectable amount of business doing in the hardware trades, and if the resultant profits are but small, there is the distinct advantage of keeping the plant going, the connection intact and the work-people employed. The South Staffordshire people employed. The South Staffordshire iron trade presents a woful appearance, very few of the works being even tolerably engaged, and hardly any of the ordinary ironmasters being able to carry on at a profit. At Lord Dudley's, Messrs. Barrows, Lilleshall and a few other places there is a moderate production of best pig and finished iron, which is sold at prices wholly outside the reach of the average producers. the reach of the average producers.

#### SOUTH WALES AND MONMOUTHSHIRE

are quiet in respect of iron and steel makare quiet in respect of iron and steel making, but at some of the tin-plate manufacturing establishments the output is being disposed of at rather higher prices. The increased price of tin and the steady operation of the restricted production combination have recently tended to send up quotations. Coke qualities are in best request. It is stated that there are at the present time 75 tin and terme plate makers in this country, and that their works are collectively able to produce 4,500,000 boxes yearly. Of that produce 4,500,000 boxes yearly. Of that quantity over 2,000,000 boxes are sent, on the average, to the United States.

#### FOREIGN.

This was at home | Morthern Italy - they quoted steel rails at £4. 19/, against £8 English offers! so that they can sell £3. 6/ per ton cheaper abroad than at home! The enterprising Deutschers also offered tires delivered in Russia at £8. 5/, or £6. 18/ at works, 27/ below their rail prices! This is so curious a method of transacting business that the British Iron Trade Association have determined to agitate on the subject. At their meeting on Friday a number of

OTHER IMPORTANT FACTS

were brought forward. It was shown that a combination of German manufacturers had taken a large steel rail order from: the Portugues government in competition with Great Britain, at about £6 per ton delivered at Lisbon, and German steel manufacturers had taken a large steel rail order from the portuguese government in competition with Great Britain, at about £6 per ton delivered at Lisbon, and German steel manufacturers had taken a large steel rail order from the portuguese government in competition with Great Britain, at about £6 per ton delivered at about that price a quantity of 3000 tons of steel rails and had obtained from a German railmakers had quoted for some time past, and had obtained from a German railmakers had quoted for some time past, and had obtained from a German railmakers had quoted for some time past, and had obtained from a German railmakers had quoted for some time past, and had obtained from a German railmakers had quoted for some time past, and had obtained from a German railmakers had quoted for some time past, and had obtained from a German railmakers had quoted for some time past, and had obtained from a German railmakers had quoted for some time past, and had obtained from a German railmakers had quoted for some time past, and had obtained from a German railmakers had quoted for some time past, and had obtained from a German railmakers had quoted for some time past, and had obtained from a German fall was produced no decline yet, on the contrary prices where they had to meet foreign competition they we the duty of iron imported into the Zollverein, It was resolved that a letter should be addressed to Lord Salisbury, requesting that he would endeavor to keep himself at courant with the protectionist movement in Germany, and inform the association from time to time of such stages in the movement as would be likely to affect the British iron and steel trade. The anomalies of the Spanish tariff as regards British manufacturers, appears from a glance at the duties levied on goods from Great Britain, as compared with the company of the consumption.

Way two francs in the assume to improve the same being quoted for large lots at 55 francs delivered at Nancy, and at 57 felivered at Nancy, and at 57

with Spain, the percentage of duty against of Great Britain being, for pig iron, 24; for manufactured iron, 43; and for iron and steel rails, 20 per cent. Our government had been urged from various sources to take action with a view of securing a rectification of these anomalies. The blue book entitled "Correspondence Respecting the Commercial Relations between Great Britain and Spain," issued within the last few days, showed that our government was fully alive to the importance of the question. The new Austro-Hungarian tariff, which takes effect on the 1st of January next, will bring into vogue 2n increase of duty on jute yarns, a decrease on certain cotton and silk manufactures and a decrease on certain kinds of iron.

FROM SCOTLAND there is no news of special importance. A few additional furnaces have, for some occult reason or the other, been lighted, the total number now in blast being 92. In Connall's stores there are 199,283 tons—a decrease of 250 tons this week. Ballast pig is lower—42/0 alongside.

THE SHEFFIELD TRADES are in the main unaltered, dulness being everywhere the rule of the day. The lighter industries are in all probability better employed than the heavier branches, but stocks

#### GERMANY. (Borsenhalle.)

(Borechalle,)

Hamberg, Nov. 30, 1878.—Metals.—The German markets have on the whole been quiet during the week, nor do we expect much activity during the week, nor do we expect much activity during the week, nor do we expect much activity during the week, nor do we expect much activity during the sensing fortnight, after which the mid-winter spell will be upon us. In view of this quiet state of affairs, present and prospective, the dealings in metals have been limited to the strictly necessary, consumers not choosing to go beyond this at prevailing rates. Copper has remained quiet and unattered there and at Stettin. Berlin is languid at 66 % of marks the 50 kilos. For English and Australian, and at 70 % 70. 50 for English and Australian, and at 70 % 70. 50 for Maussield. The has been gradually improving in our markets, but by no means as fast as in England and Holland. No change here and at Stettin. Berlin quotes as follows: Banca, 70 % 71 marks the 50 kilos. and English Refined. 66 % 67. Lead—The transactions have shown little firmners. Nothing has transpired here and at Stettia, while Berlin remains 16,50 % 17 marks the 50 kilos. with Tarnowitz, Hartz and Saxonian. We hear that at St. Petersburgh the 161 kilos, command 27,25 @ 28,25 roubles. Spelter.—Stocks in Germany are very much reduced, but there is little inquiry in view of the dullness of the season. No change is reported from either Breslau or Stettin, while here we are also without sales and nominal. Berlin quotes good qualities Silesian 17,50 % 18,50 marks the 50 kilos.

#### INDUSTRIAL ITEMS.

MASSACHUSETTS.

The Valley Machine Company at Northampton have just shipped 10 of their steam pumps to San Francisco and four to Gal-

eston, Texas.

The corundum wheel, which was referred to last week as being preserved by F. B. Norton, of Worcester, as a sample of the results which can be achieved by the wheels of his manufacture, ground the grooves of 300 pistols—or 1500 grooves in all—instead of 300 grooves, as incorrectly reported.

#### CONNECTICUT.

The Northfield Knife Company have lost but a few weeks of time since their organigation, about 20 years ago.

Durban Brothers, clock spring manufac-turers, are working overtime at Bristol.

There is an improvement in business in-dications at Thomastown. All of the fac-tories of the Seth Thomas Clock Company are running full time, and nearly all of the hands discharged during the summer are at work again. The Plume and Atwood Company's brass mill is running ten hours per day—which had not been the case for any length of time for over a year—with prospects of good business for the winter. The American Knife Company are busy, employing over 80 workmen

#### PENNSYLVANIA.

We clip the following from the Sharon Herald of the 7th inst.: At the Kimberly Mill, puddle, bar, guide and the 3-inch (old) hoop mill double turn, 9-inch (new) hoop mill single turn, nail plate mill and nail factory on till Saturday. At Sharpsville Spearman No. 2 and Douglass No. 2 both doing well

For the four weeks ending Saturday, Dec., there were made at the nail factory of 7, there were made at the nan lactory of the Pottstown Iron Company 11,336 kegs of nails. Fifty-four machines did the work. The other departments of the company are

also busy.

PITTSBURGH AND VICINITY.

It is expected that the new rolling mill at McKeesport will start up about the 1st of April next year.

WEST VIRGINIA.

The nail mills at Wheeling are all running of the full time at present.

OHIO.

The Delaware Fence Company, of Delaware, are filling one order this week for 250 of their wrought-iron shifting rails for buggy seats (Fritchy's patent), and have other orders from all parts of the country. Those already used have given universal satisfaction. This rail is a light, stylish, ingenious, as well as strong and seconomical device. tion. This rail is a light, stylish, ingenious, as well as strong and economical device, readily adjusted to the seats of buggies, and so arranged in sections as to be easily repaired when broken, these sections being screwed into couplings and thus held securely and firmly to their place. This company also manufacture Reichert's wroughtiron fence, which continues to be a favorite style and in great demand.

The Dover Brass Foundry manufactured

The Dover Brass Foundry manufactured about 1000 farm and school-house bells last

william H. Parkin & Co., file manufacturers, Cleveland, are running on full time, employing 20 men, and intend to increase their capacity. They make a specialty of

their capacity. They make a specialty of horse rasps.

The Dover Fire-brick Works are employing 21 men, turning out 6000 bricks per day. They have recently enlarged their works by extending their building, and are to begin early in the spring the manufacture of fire-proof building material.

The furnace of Tuscarawas Coal and Iron Company at Canal Dover has been idle for

Company at Canal Dover has been idle for some three years. About a month ago work was commenced in it to rebuild and enlarge it to three times its former capacity at a

cost of over \$35,000.

For the week ending Dec. 7, 15,169 kegs of nails were received at Cincinnati, making 132,980 kegs since the 1st of September, as realised that 124 for the national sections.

against 104,114 for the same time last year.
The officers of the Mingo Iron Company,

The officers of the Mingo Iron Company, at Steubenville, have been exonerated from any bad faith or "crookedness" in the management of the company's affairs.

The Globe Mill, at Cincinnati, is running full, single turn, in the puddle, sheet, bar, guide and wire departments at present. Mitchell, Trante & Co.'s mill at the same

place is on full in all departments.

All the furnaces of Jackson are idle. The Standard says Milton and Wellston furnaces will soon blow out also.

Messrs. P. Hayden & Sons' mill, at Co-

lumbus, before the explosion there was run-ning full time. The finishing mill was on double, the balance single. The Columbus rail mill has been very busy rerolling old rails, averaging about half time.

#### INDIANA.

The Capital City Mill at Indianapolis is still idle

The Indianapolis rail mill is busy. They are running all departments double turn, and are rerolling old rails. It is said the mill will run all winter.

The Ohio Falls Works, New Albany, are

running full, single turn, making merchant iron. The nail factory has done little or nothing for over six months.

#### MISSOURI.

The Vulcan Iron Works at South St. Louis are still idle.

The Laclede Mill at St. Louis is running full, double turn, in all departments. This mill was running triple turn some weeks ago.

#### MICHIGAN. The mill at Wyandotte is running about

half time, except the rail mill, which has been idle for several years.

A bar mill and guide mill have been added

A bar mill and guide min have been added to the Baugh Steam Forge Company's works at Spring Wells, and there are prospects of other improvements being added in the near future. The mill is running full time.

#### ILLINOIS.

The rail mill at Springfield is running full double turn. The puddle department is still idle. The new mill, recently built to make merchant iron and fish bar, started up a few

days ago.
The mill of Messrs. Jos. H. Brown & Co. at South Chicago, is running to its fullest capacity in all departments.

#### KENTUCKY.

From the Greenup Independent of Dec. 13, we get the following: Bellefonte will cut from 10,000 to 12,000 cords of wood this season. J. W. Hall & Co., of the Maysville Plow Works, have shipped south not less than 8000 plows during the last six months. Pennsylvania Furnace blewort Monday, the

The Princess Furnace is now working The Princess Furnace is now working better than ever before, making a daily yield of from 16 to 17 tons of good foundry iron, the improvement being accredited to the use of a stone hearth in place of a firebrick one. The question therefore naturally arises, as it has before in several parts of the Hanging Rock region, Does a stone furnace inside better answer for the reduction of our subphyrous and pheaphorus coast than of our sulphurous and phosphorus ores than one of brick? And as this proposition seems to be answered in the affirmative by practical tests in several instances, the next question is, Why is this so!—Greenup Independent. May it not be that the bricks were not the best for working with these ores! Might not other brands of brick work better?

#### TENNESSEE.

Union county zinc mines have shipped some 400 tons of ore from their works to New York since December 1.

The blooming train of the Roane Iron and Steel Company's Works has been put in

Steel Company's Works has been put in working order and is performing satisfactorily. The company have an order for steel rails which they will fill at once.

The Southern States Coal Iron and Land Company have found the true vein of coal on their Victoria property in Marion county. The coal shows a face of over five feet, lays in excellent shape for ease and cheapness of mining, and is of similar quality and character with Sewanee.

Brownsport Charcoal Furnace, situated 3 miles from the Tennessee River, claims to make iron at \$11 per ton, as follows:

tons iron																						\$2.50
% ton limesto	nø.																					25
135 bushels of	ch	a	n	20	a	1	ai	b.	4	C	e	n	tı	Į.					0	0	0	5-40
Labor and su	per	10	ιŧ	01	10	16	n	C	Θ						0	0	 		0	0	۰	2.75
Repairs				- 0						0			, ,						0			20
Total																						\$ 11.00

Rising Fawn Furnace was banked in most of the week ending 14th inst., to enable the operatives to repair the hot blast.

#### Mining and Mineral Items.

COAL.

For some months the Philadelphia Coal Company have been prospecting for coal at Rappahannock Station, in close proximity to the Philadelphia and Reading Pollario the Philadelphia and Reading Railroad. Rappahannock Station, or the "Rap," as it is familiarly called by those who reside in the neighborhood, is located on the Shenandoah branch of the Philadelphia and Reading road, about four miles from Shenandoah and one mile from Mahanoy Plane. There are at mile from Mahanoy Flane. There are at present no collieries nearer the point than those located in the borough of Girardville or on its outskirts. It is reported that the prospectors have made a "find," a big one at last accounts, no less than a voin 30 feet in thickness. Should the news be verified, the "Ban," will increase in invertance as

in thickness. Should the news be verified; the "Rap" will increase in importance as well as population.—Pottsville Journal.

Work was recently resumed in the large coal shaft of the Northern Illinois Coal and Iron Company, which has not been operated since last winter. since last winter.

since last winter.

Nearly all the collieries operated by the Philadelphia and Reading Coal and Iron Company at Shamokin, Pa., have resumed

The Central Mining Company are at New Straitsville running their works to the fullest

The Pacific Slope mines at Hermitage, Pa., have again started after an idleness of several months.

The Morgan Coal Works at Latrobe, Pa., are still idle. The Loyalhanna, Coketon and Millwood coke works are being operated to

their fullest capacity.

An explosion of nitro-glycerine and gunpowder occurred at St. Benard coal mines at
Earlington, Kentucky, last Friday. The
shock was felt for miles. A train of mining cars, the mules and a negro driver were blown to atoms. There was a panic among the miners and their families.

The output of coal in the Cumberland,

Md., region for the week ending November 30 was 37,582 tons. For the same week last year, 10,012 tons; an increase of 27,569 tons. Total for the year to date, 1,570,723 tons; same time last year, 1,449,122 tons, an increase of the form of the tons. crease of 124,600 tons

We take the following from the Marqu intto Mining Journal of the 30th ult.: The Republic has closed the season with a grand total production of 176,221 tons, all shipped via Marquette. Total shipments of all our wia Marquette. Total supments of all our mines up to the 27th ult., 1,069,798 tons. Shipments yet to be made, together with shipments by rail south of Escanaba and to local furnaces, will increase these figures to at least 1,100,000 tons. The shipping season has not yet closed via Escanaba, and one week more like the last will bring the shipments from that port up to Marquette's figures. The shipments from there last week were

The Berks County Mining Company is the name of a new mining company which has just been organized in the eastern portion of Berks county, Pa., with George Reidenauer, Nicholas Andre, Amandus Bitner and John T. Dyner as members. Mr. Bitner is the president, Mr. Andre, secretary, and Mr. Dyner superintendent. The object of the comsuperintendent. pany, as stated in their charter, is to search for minerals, conduct mining and quarrying operations and excavate minerals, particularly iron ore. The capital stock is \$10,000.

The company own mineral lands and iron ore leases in Olney and Rockland town-

A meeting of the heaviest capitalists and most prominent business men representing the iron ore and vessel interests of Cleveland, was held on Thursday last, the object of which was to promote influences to secure the improvement of the harbor of Duluth, and hasten all such improvements as will give the largest sized vessels free and uninter-rupted navigation through the great lakes. Delegates to a similar meeting to be held at St. Paul on the 18th inst. were elected. The Gabel iron ore mine at Boyertown,

Pa., has now reached a depth of 353 feet. It is expected to strike the Boyertown vein at about 400 feet.

From the Marquette Mining Journal we take the following table giving the total shipments of iron ore by lake and rail for the season of 1878, just closed by the cessation of navigation:

Name of mine.	Gross tons.	Name of mine.	Gross tons.
Republic	176,221	Clevel, hematite	9.317
Cleveland	143,420	Norway	7,270
Lake Superior	102,534	Bessemer	8,506
Jackson	83,191	Goodrich	7.547
Champion	73,464	Cyclops	6,028
Saginaw	61,237	Keystone	5,401
Michigamme	58,622	Palmer	4,704
Salisbury	52,155	Breen	4,694
Vulcan	38,799	Marquette	4,596
McComber	30,180	Mitchell	4,250
Rolling Mill	30,773	National	4,101
Pittsburgh and	3-1113	N. Y. hematite	4,547
Lake Angeline	98,161	Cambria	3.754
Barnum	26,680	Pendill	3,385
Quinneseo	85,925	Spurr	3,217
Humboldt	23,920	Manganese	9,003
Winthrop	93,740	Steward	1,600
New York	21,003	Howe	1,225
Smith	16,924	Morgan	10
Emmett	11,523	_	
Edwards	10,351	Total	24.001

The following is a detailed statement of the iron ore, pig iron and quartzrock shipped from the ports of Marquette, L'Anse and Escanaba to lower lake ports during the sea-son of 1878, up to and including the 1st day

Name of   Gross   mine   tons   tons   Republic   176,221   Cleveland   115,557   Lake Superior   82,668   Champion   24,3,464   Rolling Mill   25,621   Humboldt   39,920   McComber   17,883	Name of dross mine. tons. Edwards. 10,293 Ten other mines shipping 10 s s than 10,000 tons. 25,273 Total552,123
L'A	NSE.
Michigamme 38,839 Spurr 2,317	Steward 1,130 Tot. ore, L'Anse 42,186

Michigamme Spurr		Tot. ore, L'Anse 42,186
	EBCA	WABA.
Jackson Saginaw Saginaw Sagisaury Vulcan Barnum Pittsb rgh & Lake Angeline Cleveland Quinnesec New York Michigamme	52,155 35,617 26,680 26,678 23,924 23,602 21,903	8mith 16,984 Lake Superior 13,465 Winthrop 13,144 McComber 10,198 Emmett 10,198 16 other mines ship ng less than 10,000 tons 67,050 Total 5505,393

		IRON	08	UR.		
Clevelar Lake Su Champi		15,567 87,472 73,465	H	me of nine. umboldt. cComber. lwards other mi		17,883
	Mill			Total		618,600
The	following	g tab	le	shows	the	total

amount of iron ore, pig metal and quarts transported over the Peninsula Division of the Chicago and Northwestern Railway during the season of 1878:

tons. mine. 83,121 Michigamme.... 61,237 Smith. 52,155 Lake Superior... Winthrop....

Barnum Cleveland Pittsb'rgh & Angeline Quinnesec New York	Lake 26,671	McComber	13,523 61,104
		IRON.	
1	Shipped from	n Marquette.	
			tons.
Carp River F		**************	
Pioneer	** *****		3,882
Iron Cliffs		****************	100
Total pig	iron		8,240
	By M., H.	& O. R. R.	
Carp River F	urnace	*******	4,142
Pioneer			3,802
Tron Cliffs	05		TOO

One or two of the pits at the McComber yield a very fine quality of manganesious ore, which is readily sold at a very considerable advance over the prices paid for hematites, and which is used in the manufacture atites, and which is used in the manufacture of spiegel iron for Bessemer steel purposes. The developments at the McComber and on adjoining properties the past year give assurance of an increased product of this class of ore next season, and certainly an increased importance to the Negaunee hematite range.

By P. Div. C. & N. W. R. R. .... Grand total..... 18,644

#### PRECIOUS METALS.

Benjamin Newell, of Dalton, and Almon Bassett, of Pittsfield, Mass., who have leased 75 acres of land just north of Dalton, are ex-hibiting some specimens of silver quartz which they are having assayed, some of it producing at the rate of \$200 a ton. Boston parties have recently been there and taken parties have recently been there and taken away a considerable quantity of umber, which is found in abundance and easily which is found in abundance and easily taken out, and they pronounce it equal to the finest burnt umber, even in its natural state. The lessees are preparing to go into mining extensively in the spring.



Total pig iron.

B. W. PAYNE & SONS, Corning N. Y., Established in 184

Eureka Safety Power h.p. cyl. ht. space. wt. price 2 | 336 4 48 in 40X25 | 000 | \$150 4 | 4X6 56 " | 46X30 | 1500 | 240 6 | 5X7 | 72 " | 72X42 | 2700 | 400 Also, Spark Arresting Portable and Stationary Engines for Plan tations. Send for Circulars.



NONESUCH Self Locking Burglar Proof Window Locks. FRED. J. HOYT

733 Broadway, N. Y.

# COULTER, FLAGLER &

# Hardware Manufacturers' Warehouse,



#### THE TURNER & EYMOUR MFG. CO.,

Upholsterers', Stationers', House **Furnishing and Fancy** HARDWARE AND NOTIONS.

Fancy Brass Goods and Small Iron Castings to order.

SPECIALTIES.

Shade Fixtures and Trimmings in great

Picture Nails, Knobs, Hooks, Cord, Wire, &c. Ink Stands of Superior Finish. Twine Boxes, Escutcheon Pins, Curtain

Rings, Nutmeg Graters. The Best American Cast Scissors and Shears.

FACTORIES, Wolcottville, Conn.

WAREHOUSE, 81 Reade Street, New York.



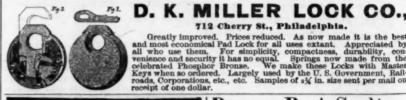
COVERT'S HORSE AND MULE JEWELRY. Consisting of Covert's Celebrated Harness Snaps, Swivel Snaps, Open Eye Bit and Chain Snaps, Snap and Thimble for Horse and Cattle Ties, Rope Goods consisting of Horse Ties, Cattle Ties and Halter Leads, Leather Horse Ties, Breast Chains, Halter Chains, Martingale Chains, Rein Chains, Post Chains, Post Rods, &c. These goods are far superior to anything of the kind on the market. They have from real merit become standard, and never fail to give entire satisfaction. They are sold by allleading jobbers in general and saddlery hardware at manufacturers' prices. Special attention is called to our new patented Rope Goods. No more braiding or winding ends with cord; all accomplished with machinery by clamping the rope with steel rings, which enables us to make better goods at reduced prices. Send for catalogue and price list. Address COVERT MFC. CO., Sole Manufacturers, Troy, N. Y.

# "NEW COMBINATION."

THE

8,134

TACKS & NAILS. DUNBAR . HOBART & WHIDDEN



712 Cherry St., Philadelphia. Greatly improved. Prices reduced. As now made it is the best and most economical Pad Lock for all uses extant. Appreciated by all who use them. For simplicity, compactness, durability, convenience and security it has no equal. Springs now made from the celebrated Phosphor Bronze. We make these Locks with Master Keys when so ordered. Largely used by the U. S. Government, Railroads, Corporations, etc., etc. Samples of 2% in. size sent per mail on receipt of one dollar.



Bergen Port Spelter. WORKS & FURNACES Bergen Port, N. J.

The only Miners and Manufacturers of

PURE

LEHICH SPELTER.

From Lehigh Ore.
Warranted free from any trace of Lead, and especially adapted for

Cartridge Metal and German Silver. BERGEN PORT OXIDE ZINC, Superior for Liquid Paint on account of its body and wearing properties.

F. OSCOOD & CO., Proprietors. E. A. FISHER, Agent, 13 Burling Slip, N. Y.

rth's Best English Cast

Foot Power Bracket Saves

Are now so much in demand that some of them are being sold in almost every town in the United States. Many dealers are doing a profitable Christmas trade on such goods at a time of the year whom other business is usually dull. The two Saws shown in these cuts are the ones most in demand. We advertise them as for sale at the hardware stores, and they will be called for. We make a fair discount to the trade.

#### LESTER SAW.

The New LESTER SAW is made of Iron, with all the working parts of Steel, and contains ALL KNOWN IMPROVEMENTS to this date. It is handsomely painted red and green with red stripes, and presents a beautiful appearance. Those parts which are not painted are either Polished or Japanned. We warrant the Saw to be just as herein stated, and we know it will give entire satisfaction, being a more expensive machine than those which we formerly sold for \$2s\$, rst. it consists of a SCROLL Saw, with Tilting Table for Inside work, arms is inches in the clear; clamps which will hold saws of any length or which and face them inches in the clear; clamps which will hold saws of any length or which and face them in the clear; clamps which will bold saws of any length or which and see them in the clear; clamps which will bold saws of any length or which will out lumber \$4 ich and a less; with an Iron Table 4 by 5 inches. 2d. A DERLING ATTACHMENT with its Stubs Steel Drills of various sizes for wood or iron work, 4th. An EMERT WHEEL, with wide and narrow rim. 4th. A TURNING LATER, with Iron Ways and Rest, 5teel Centres and three Beet Steel Turning Tools; iongst of Ways, 15 inches; distance between Centres, 9 inches; swing, 3 inches; length of Silde Rest, 44 inches; inmage of revolutions per minute, 7000. Also, with each Machine, six Saw Blades, a Wrench, Serew Driver, Extra Belt and two sheets of Designs, with a nite box for the small tools and a box for the whole machine. It is taken anart when shipped and passing in a box, but the working parts are all left in place and the frame is put together again by a single bolt.

Price for everything above named,

The same without the Lathe and Circular Saw, \$8.00

When desired, we furnish with the Lathe a very nice Drill Chuck for working metaland a Tail Stock, with Screw Centre, for \$2.00 extra.

#### ROGERS SAW.

Scroll Sawing and Drilling Attachment. Iron Table, adjustable for inlaying.

All the working parts of iron and steel; weight, with box, so pounds; hight of table above the floor, so inches; 1-inch belt wheel; 5-inch balance wheel; arms 15 inches in the clear; latest improved clamps; round beits; extra drills and wrench. The iron and steel parts are polished or Japanned; the wood is painted dark. It is not as good as our Lester saw, but is much better than any other cheap machine in the market.

Price, including all the attachments and the box, - + \$3.00

MILLERS FALLS CO., 74 Chambers St., New York.



7 Nº 99¼ 8	10 11
	<u>։ Հայարարարակակարգությարությարարակարարության անդասարակա</u>
G STEPHENS & CO 1	

Manufacturers of U.S. Standard BOXWOOD and IVORY RULES. Also Exclusive Manufacturers of L. C. STEPHENS' PATENT COMBINATION RULE.

Rules graduated in foreign measure to order.

H. DURRIE & CO., New York Agents, who will supply the trade at factory prices.

### BAILEY WRINGING MACHINE CO.,

No. 99 Chambers Street, New York.





MANUFACTURERS OF

Novelty and Excelsior Clothes Wringers, Defiance Metallic Planes,

Spoke Shaves, Try Squares, etc., Novelty Carpet Sweepers.

MANUFACTURERS' AGENTS FOR American Meat and Vegetable Choppers, Silver's Stuffers and Presses,

Simpson's Quick-Adjusting Parallel Vises, Novelty and Relief Washing Machines, **Domestic Ironing Mangles** 





SPECIAL QUOTATIONS ON THE ABOVE GOODS FOR EXPORT.

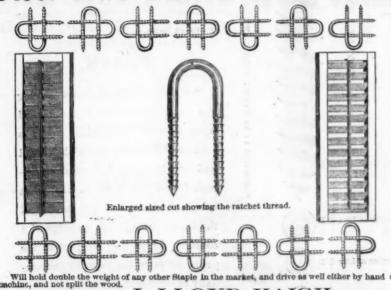
Send for Illustrated Price List and Discount Sheet.



Brass Hooks for Jewelers' Cases, Zinc and Iron Hinges, Turn Buttons, Thumb Springs, Book Clasps, and Fancy Metal Work of all kinds. OFFICE AND WORKS: Nos. 63 & 65 Elizabeth Street, New York.

Patent Improved Cone Pointed, Ratchet Thread,

# Steel Wire BLIND STAPLES.



J. LLOYD HAIGH,

81 John Street, New York. Sole Manufacturer

# NATIONAL Horse Nail Co

# FINISHED

[BRIGHT OR BLUED]



These nails are made of the best brands of NOR-WAY IRON, and are guaranteed to be equany in the market.

NATIONAL HORSE NAIL CO., VERGENNES, VT.

RORACE DURRIE & CO., Agente, No. 97 Chambers St., New York

**PUTNAM'S HOT FORGED & HAMMER POINTED** Horse Shoe Nails.



PUTNAM NAIL CO., P. O. Address, Neponset, Mass. BOSTON.

# ANVIL NAIL

We desire to call the attention of the trade to

# Steel Horse Shoe Nails,

made from metal prepared in the Martin-Sier Furnace by our PATENT process, which produces a nail having all the requisites for a

#### PERFECT HORSE SHOE NAIL.

The well-known desirable properties of a perfect nail are, that the FOINT should be sharp, the SHANK stiff, to draw without crippling under the hammer, sorr enough to clinch readily, while sufficiently tough to avoid all danger from the "drawing the clinch" or breaking the neck under the head. These properties we claim for the

#### "ANVIL HORSE NAILS."

In the process of manufacture the metal is cor pressed under the head, which gives the nail great strength where it is required (between the aboe and hoof), and the cold rolling gives it a stiffness attained in no other way, while the quality of the metal used insures a clinch and point un surpassed by any nail ever offered in the market. Samples and prices sent on application

ANVIL NAIL CO.,

65, 67 and 69 Washington St., New York.

Established in 1839

Formerly L. & A. G. Coss.





JUNE 26, 1866, MARCH 23, 1869, REISSUED 1870.

MOVEMBER 10, 1863, FEBRUARY 23, 1864, REISSUED JUNE 1, 1869, IMPROVED AUG. 1, 1877.

The back thrust when in use borne by the SHANK instead of the Hand'e. None genuine unless stamped "L. COES & CO."

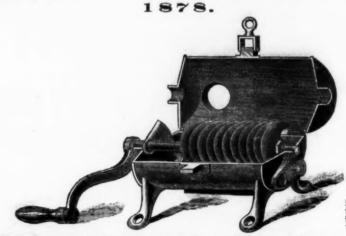
Worcester, Mass.

Warehouse, 97 Chambers St., & 81 Reade St., N. Y HORACE DURRIE & CO., Sole Agents.



3 CHAMPION DURRIE

PENNSYLVANIA MEAT CUTTER.



After many careful tests and experiments, the Pennsylvania Mear Cutter is placed upon the manket with the fullest confidence of its superiority. It cuts the meat rapidly and is easily adjusted to cut coarse or fine. The knives are the best quality cast steel, tempered and hardened, easily removes from the shart for the purpose of grinding, or can be sharpened it necessary by the use of a flat fit without being taken from the shaft. The comb (below the shaft and cutters) is malleable iron. Through this comb the knives pass and the meat is entirely cut. At the price these are placed upon the market they can reach the consumer at a price that must guarantee popularity.

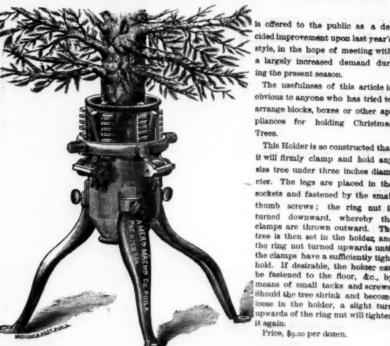
PHICE LIST.

e packed 1-2 dozen in a box; No. 3 packed 1-4 dozen in box. rade, 50 per cent. Orders solicited.

LLOYD, SUPPLEE & WALTON,

No. 625 Market Street, PHILADELPHIA.

# THE "NEW" CROWN **Christmas Tree Holder**



cided improvement upon last year's style, in the hope of meeting with a largely increased demand during the present season.

The usefulness of this article is obvious to anyone who has tried to arrange blocks, boxes or other appliances for holding Christmas

This Holder is so constructed that it will firmly clamp and hold any size tree under three inches diameter. The legs are placed in the sockets and fastened by the small thumb screws; the ring nut is turned downward, whereby the clamps are thrown outward. The tree is then set in the holder and the ring nut turned upwards until the clamps have a sufficiently tight hold. If desirable, the holder can be fastened to the floor, &c., by means of small tacks and screws. Should the tree shrink and become loose in the holder, a slight turn pwards of the ring nut will tighten

Price, \$9.00 per dozen.

MANUFACTURED ONLY BY

THE AMERICAN MACHINE COMPANY,

Office and Factory, 1916 to 1924 N. 4th Street, Philadelphia

# AMERICAN SCREW CO.,

Providence, R. I.,

# MANUFACTURERS OF MORE THAN 4000 VARIETIES OF PRODUCT,

AND INCREASING THE ASSORTMENT DAILY.

Machinery employed contains important inventions recently patented, and which are designed to produce Screws at a lower cost to the consumer than has ever been attained.

All goods are distributed through the Hardware trade, to whom a liberal discount will be allowed.

(No. 235.)

# INTERNATIONAL EXHIBITION.

PHILADELPHIA, 1876.

The United States Centennial Commission has examined the report of the Judges, and accepted the following reasons, and decreed an award in conformity therewith.

PHILADELPHIA, November 8, 1876.

#### REPORT ON AWARDS.

Product: Iron, Brass and Steel Screws, Tire and Stove Bolts, Rivets. Name and address of Exhibitor: American Screw Company, Providence, R. I.

The undersigned having examined the product herein described, respectfully recommends the same to the United States Centennial Commission for Award, for the following reasons, viz: Being of a quality nearly approaching perfection, showing the highest attainment in this branch of manufacture.

G. I. Reed. Signature of the Judge.

Approval of Group Judges.

Daniel Steinmetz,

Jas. Bain,

G. L. Reed, J. D. Imboden, J. Diffenbach, Dav. McHardy.

Chas. Staples,

A true copy of the record. Francis A. Walker, Chief of the Bureau of Awards.

Given by authority of the United States Centennial Commission.

A. T. Goshorn, Director-General.

[L.S.] J. L. Campbell, Secretary.

J. R. Hawley, President.







After forty years' experience we offer to the trade our Centennial Screws, patented May 30, 1876, as the best we have ever known.

The method of manufacturing is also patented, and we are changing our machinery as fast as possible, to manufacture the improved article only. To introduce them, they will be sold at the same price as the old style screw.

The new screws will be packed in manila colored boxes with the new label covering end of box, and enlarged figures showing plainly contents.

To distinguish this screw we have adopted a trade-mark, which is also secured to us.

The accompanying engravings show the progress of making screw from the old blunt point to style now adopted.

Experience has shown that the weak point of screws, as formerly made, is at the heel of the thread, where all Patented August 30.

Section at Line C D

Section at Line E F

Patented May 30.

COVERED BY TRADE MARK.

Estimated to be FIFTY PER CENT. stronger than a Screw as

CLAIM.

tions at lines.

tne strains of forcing the screw into

To avoid the sharp angle existing

in the old style of screws has been

the aim of all manufacturers, but every

expedient hitherto adopted has proved

as objectionable as the evil complained

It will be seen in our new screw

that not only is the sharp angle

avoided, but the strength very much increased, as illustrated. See sec-

the wood naturally concentrate.

"A Pointed Wood Screw having the outer periphery of the thread upon its body cylindrical, while a portion of the body below the thread and near the neck is conical, the remainder of the body to the point being cylindrical, and yet having all the thread brought to an edge of a constant angle, without jogs in the paths between the threads, substantially as described."

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Saus	age St	uffer	B			O			1
Sawa	s, Make	ers q	o., Tr	enton	, N. J			20	1
Diss Peac Whe	ton He ton He to Harv seler, h	Dry &	Sons Will Ban &	, Phil itams Clem	burg.	o	Middle	- 33 - 29	

Scales. Manufacturers of. Howe Scale Co., Rutland, Vt	Stove Pipe. Chicago Stamping Co. Stove Repairs. Metzner W. C., Chicago, Ill. Stove Trucks. Tucker Alarm Till Mfg. Co., Indianapolis, Ind30
Chattillon John & Sons, or Cliff, N. V.	Chicago Stamping Co 3
Riehle Bros., oth above Master, Phila30	Metzner W. C., Chicago, Ill
Southwark Hardware Co., Philadelphia, Pa. 29 Screws, Makers of, American Screw Co., Providence, R. I. 22 Miles F. S., 205 Quarry, Phila. 13 Philadelphia Screw Co., Philadelphia, Pa. 8 Screw Cutting Machinery, Howard Iron Works, Buffalo, N. Y. Howard Iron Works, Buffalo, N. 4 Screw Causell Mig. Co., Greenfield, Mass. 34 Disston Henry, (Phyproced), Makers of, Disston Henry & Sons, Phila.	Stove Trucks.
American Screw Co., Providence, R. I	Tacks.
Miles F. S., 205 Quarry, Phila	Tacks.  American Tack Co., Fairbaven, Mass.  American Tack Co., Fairbaven, Mass.  Field A. & Sons, Taunton, Mass.  Grundy Geo, C., 165 Greenwich, N. Y.  Shelton Co., Birmingham, Ct.  Taps and Dies.  Carpenter J. M., Pawtucket, R. L.  Maning H. S. & Co., 111 Liberty, N. Y.  A. & G. Haylor Co., Philadelphia.  Tin Plate, Manufacturers of.  U. S. Iron and Tin Plate Co., Pittsburgh, Pa.  Trowels.  Bruce Geo. W., I Platt, New York.
Screw Cutting Machinery.	Grundy Geo, C., 165 Greenwich, N. Y
Howard Iron Works, Buffalo, N. Y	Shelton Co., Birmingham, Ct
Screw Drivers, (Improved) Makers of	Carpenter J. M. Pawineket, R. I.
Disston Henry & Sons, Phila	Manning H. S. & Co., 111 Liberty, N. Y3
Scroll Saws. Lewis Mfg. Co., Seneca Falls, N. Y	Wiley & Russell, Greenfield, Mass
Scythes.	N. & G. Taylor Co, Philadelphia
Scythes.  Scythe Scythe Co., West Winsted, Conn  Scythe Stones.	Tin Plate, Manufacturers of.
Scythe Stones. 10 Scythe Stones. Pike A. F. East Haverhill, N. H. 12 Shovels. &c. C. Rowland B. & Co., Philadelphia. 11 Shot, &c.	Trowels.
Shovels, &c.	Bruce Geo. W., r Platt, New York
Shot, &c.	Bruce Geo. W., 1 Platt, New York
Shot. &c., Sparks Thos. W., 121 Walnut, Philadelphia33 Shears (Sheep).	Disston Henry & Sons, Phila.  Tubes.  Deaken Robt. T. & Co., 5co N. 12th., Phila
Hildick A. H. A. Co. vs Warren V. V.	Deaken Robt. T. & Co., 500 N. 12th., Phila25
Sparks Thos. W., 121 Walnut, Philadelphia	Dudgeon Richard, 24 Columbia, N. Y
Reeves Paul S., 760 South Broad, Phila36	Twist Drills, Makers of.
Ostrander W. R., 10 Ann. N. Y.	Unhoisterers' Goods.
Spelter. Manning & Squier, 113 Liberty, N. V. 2 Osgood F. & Co., Bergen Port, N. J. 20 Springs.	Turner & Seymour Mfg. Co. 8: Reade, N. Y
Osgood F. & Co., Barren Port, N. J.	Valves, Gas, Water and Steam.
Springs.	Mohawk & Hudson Mfg. Co Waterford, N. Y 3
Rowland Wm & Harvey Frankford Phile	Ventilators. Bracher Ventilator Co., 3 Park Row, N. Y
Stamped and Japanned Tin Ware.	Vises.
Haberman, F. 204 Pearl, N. Y.	Bailey Wringing Machine Co., 90 Chambers, N. Y2
The Chicago Stamping Co., Chicago, Ill.	Millers Falls Co. 74 Chambers, N. V.
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Lealie Boiler Works, Jarsey City N. J.	Watchman's Time Detectors.
Steam Cookers.	Water Wheels.
Hale Dr. Jos., 51 Washington, Boston, Mass29	Millert & Co., Reading, Pa3
Dudgeon Richard, 24 Columbia, N. Y	Vises.  Bailey Wringing Machine Co., 90 Chambers, N. Y2  Bonney C. S. & Son, Frankfort, Philadelphia
Steam Pumps, &c., Manufacturers of.	Wedges.
Clayton Jas., 11 Water, Brooklyn, N. V.	Am. Sleigh and Carriage Iron Co., Boston Mass3
Crane Bros. Mfg. Co., Chicago, Ill30	Rodgers H. A., 19 John N. Y
Knowles Steam Pump Works, or Liberty, N. V.	White Lead, Manufacturers of.  Brooklyn White Lead Co. So Maiden Lane N. V.
Manning & Squier, 113 Liberty, N. V. 20 Osgood F. & Co., Bergen Port, N. J. 20 Springs. Carey & Mosn. 234 W. 29th, N. Y. Rowland Wm. & Harvey, Frankford, Phila. 36 Stamped and Japanned Tin Ware. Haberman, F. 204 Pearl, N. Y. Shepard Sidney & Co., Buffalo, N. V. 27 The Chicago Stamping Co., Chicago, III. 3 Steam Bollers. Firmenich J. G. & F., Buffalo, N. Y. 37 Lealis Boller Works, Jersey City, N. J. 34 Lealis Boller Works, Jersey City, N. J. 35 Lealis Boller Works, Jersey City, N. J. 36 Lealis Doller Works, Jersey City, N. J. 36 Lealis Doller Works, J. Washington, Boston, Mass. 36 Lean Humbers, & Manufacturers of. Cameron A. S., East 23d, N. Y. Clayton Jas., 11 Water, Brooklyn, N. Y. 37 Kendy Wm. E., & Cortland, N. Y. 37 Kendy Wm. E., & Cortland, N. Y. 38 Shuitz M. Chu, E. & Co, Chicinati, O. 35 Shuitz M. Chu, E. & Co, Chicinati, O. 35 Shuitz M. Chu, E. & Co, Laltimore, Md. 30 Steel Castings, Manufacturers of. Chester Steel Castings, Co., Evelina, Phila., Pa. 36 Flagg Stanley G. & Co., 216 and 216 N. 3d, Phila. 36 Flagg Stanley G. & Co., 216 and 216 N. 3d, Phila. 36 Flitsburgh Steel Casting Co., Cheeter, Pa. 36 Flagg Stanley G. & Co., 216 and 216 N. 3d, Phila. 36 Flitsburgh Steel Casting Co., Phitsburgh, Pa. 30 Steel I mporters.	Bracher Ventilator Co., 3 Park Row, N. Y. Wedges, Am. Sleigh and Carriage Iron Co., Boston Mass., 3 Wheelbarrows, Rodgers H. A., 19 John N. Y. White Lead, Manufacturers of, Brooklyn White Lead Co., 30 Maiden Lane, N. Y., 3 Colgate Robert & Co., 267 Pearl, N. Y., 3 Jewett John K. & Bros., 218, Front, Phila., Pa., 3 Lewis John T. & Bros., 218, Front, Phila., Pa., 3 Window Springs, Makers of, Land Control of the Control of th
Valley Machine Co. Fasthampton Wass	Jewett John & Sons, 182 Front, N. Y
Steam Winder.	Lewis John T. & Bros., 221 S. Front, Phila., Pa
Ramsay H. A. & Co., Baltimore, Md30	Hammond W. S., Lewisberry, Pa
Chester Steel Castings Co., Evelina, Phila., Pa 36	Wire, Manufacturers of.
Eureka Cast Steel Co., Chester, Pa36	Gilbert & Bennett Mfg. Co., 273 Pearl, N. Y
Pittsburgh Steel Casting Co., Pittsburgh, Pa36	Harrison Wire Co. St. Louis, Mo.
Pittsburgh Steel Casting Co., Pittsburgh, Pa 36 steel Importers. Carr J. & Riley, & John, N. Y 28 Hobson Francis & Son, 97 John, N. Y 28 Moss F. W., & John, N. Y 28 Moss F. W., & John, N. Y 28 Miccop & Co., 28 Froadway, N. Y 44 MicCop & Co., 134 and 196 Duane, N. Y 36 Wolff R. H. & Co., 16 Cliff, N. Y 38 Steel (Mushet Special.) Randali & Jones, to Cliver, Boston, Mass. 28 Steel Manufacturers. Albany & Rensselagar Icon & Steel Co. Toy, N. Y. &	Howard & Morse, 45 Fulton, N. Y
Hobson Francis & Son, or John, N. Y. 28	Prentiss Geo. W. & Co., Holyoke, Mass
Moss F. W., 80 John, N. Y	Trenton Iron Co., Trenton, N. J.
McCov & Co., 124 and 126 Duane, N. V.	Troy Wire Co., Troy, N. Y.
Wolff R. H. & Co., 16 Cliff, N. Y	Wire Drawing Machinery.
Randali & Jones to Oliver Boston Mass	Adt John, New Haven, Ct
Steel Manufacturers.	Heald S. & Son, Barre, Mass
Albany & Rensselaer Iron & Steel Co., Troy, N. Y 28	Brown & Sharpe Mfg. Co., Providence, R. I
Miller, Metcalf & Parkin, Pittsburgh	Wire Goods, Manufacturers of.
Rowland Wm. & Harvey, Frankford, Phila36	Oliver E., 106 and 108 Beekman st., N. Y
Smith, Sutton & Co., Pittshurch, Pa	Wire Nails.
Singer, Nimick & Co., Pittsburgh, Pa	Wire Rope. Iron and Steel, Makers of.
Standard Steel Works, Philadelphia, Ro	Broderick & Bascom, St. Louis, Mo
The Edgar Thomson Steel Co., 57 Broadway, N. Y., &	Hazard Mfg. Co., Wilkesbarre, Pa.,
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Randall & Jones, to Cliver, Boston, Mass.  Read Manual & Jones, to Cliver, Boston, Mass.  Steel Manual & Jones, to Cliver, Boston, Mass.  Steel Manual & Jones, to Cliver, Boston, No. 28  Midvale Steel Works, Nicetown, Phila., Pa. 6  Miller, Metcalf & Parkin, Pittsburgh. 8  Rowland Wm. & Harvey, Frankford, Phila. 56  Sanderson Bros., Steel Co., Syracuse, N. Y. 26  Smith, Sutton & Co., Pittsburgh, Pa. 28  Singer, Nimick & Co., Pittsburgh, Pa. 3  Spencer I. R. & Son, Sheffied, England. 10  Standard Steel Works, Philadelphia, Pa. 7  Spencer I. R. & Son, Sheffied, England. 20  Standard Steel Works, Philadelphia, Pa. 7  Wardley Thomson Steel Co., 3 Broadway, N. Y. 6  Wardley Thomson Steel Co., 3 Broadway, N. Y. 6  Steel Shutters.  Clark & Co.'s, 16 and 16 W. 27th, N. Y.  Steel Spiral Springs, Manufacturers of.  Cary & Moen, 34 W. 25th, N. Y. 3  Stenell Stamms. Nash & Koebler, 35 Pearl, N. Y. 35  Stocks and Dies.	Coes L. & Co., Worcester, Mass
Stocks and Dies.	Girard Wrench Mfg. Co., Girard, Pa
Holroyd & Co., Waterford, N. Y	Wringers.
Wiley & Russell Greenfield Mass	Adams F. F. & Co., Erie, Pa
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Metal Stamping & Enameling Co., St. Louis, Mo 3	Metropolitan Washing Machine Co., 52 Cortlandt,
Nash & Koehler, 36 Pearl, N. Y	Adt John, New Haven, Ct.  Heald S. & Son, Barre, Mass.  Wire Gauges.  Brown & Sharpe Mfg. Co., Providence, R. I.  Wire Goods, Manufacturers of.  Gilbert & Bennett Mfg. Co. '73, Pearl, N. Y.  Oliver E., 106 and 108 Beekman et., N. Y.  Wire Nuils.  Hassall William, 65 and 65 Elizabeth, N. Y.  Wire Rope, Iron and Steel, Makers of.  Bootrick & Grecord, Malls, Mo.  Hazard Mfg. Co., Wilkesbarre, Pa.  Roebling's John A. Sons, Trenton, N. J.  Wooden Ware.  Adams F. F. & Co., Erle, Pa.  Wrenches, Manufacturers of.  Bemis & Call Hdw. & Tool Co., Springfield, Mass  Coos A. G. & Co., Worcester, Mass  Coos I. & Co., Worcester, Mass  Girard wrench Mfg. Co., Girard, Pa.  Rogers H. A., 19 John, N. Y.  Wringers.  Adams F. F. & Co., Erle, Pa.  Alexander T. J., Boston, Mass  Bailey Wringing Machine Co., 32 Chambers, N. Y.  Metropolitan Washing Machine Co., 52 Cortlandt,  N. Metropolitan Washing Machine Co., 52 Cortlandt,  N. F. P. & Co., Erle, Pa.  Philadelphia
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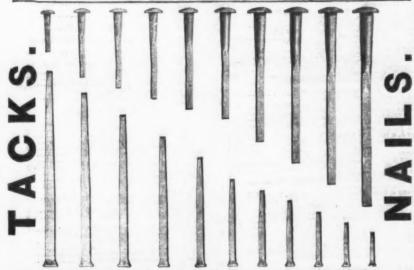
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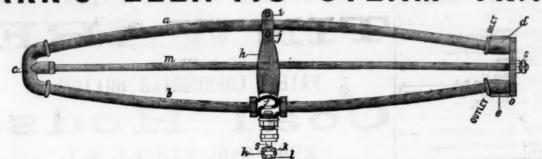
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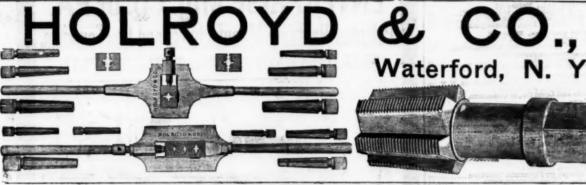


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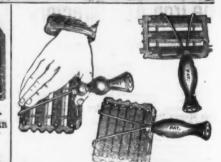
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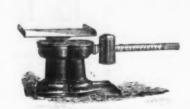
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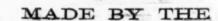
AT THE ST. LOUIS FAIR, OCTOBER 7th, 1878.

We, the undersigned, were a committee for the examination and comparison of Farm Implements, and we examined the Howe's Improved Scales and the Fairbanks' Scales, and found, in our opinion, the Howe Scales to be the best Scales, containing valuable improvements which add greatly to their durability, besides their being very simple, accurate and economical.

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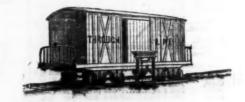
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HARDWARE.	Union Mfg. Co.'s Fancy Butts—	Breast, P. S & W	Hunters'	NausSee Trade Repo
A nvils  A american	1   1   1   1   1   1   1   1   1   1	" Wilson's	Shingling, Nos. 123	Naus and Washers. See Trade Report Square Nuts. 70 off il Rexagon Nuts See Off il Washers. 70 off il Washers. 70 off il
A American	with Silvered Acornsdis 70&10 )	Ratchet, Merrill's. dis 25 9 Ingersoll's (old list). dis 35 9	Claw, Nos. 1 2 3	Washers
Armitage's Mouse Hole gold 94 @ roc	Fast Joint Narrow	Whitney's dis 30 9	Broad, Nos. 2 3 4 @ dos 11.00 16.00 14.50	Nat Crackers Table (Humason & Beckley Mfg. Co.)dis 33/5 Blake's Pattern
Apple Parers, &c.	Loose Joint, Broad	" Moores Triple Actiondis 20 @ 25 9 Whitney's Hand Drill	** Hay Knives.  ** "Lightning". ** # dox \$20.00 ne.  ** Wadaworth's. ** dis 30.50	Blake's Pattern W doz \$2.35, dla 10
Furn Table	Table Butts, Back Flaps &c	Wilson's Drill Stocks	Wadsworth'sdis 30 9	Histor's Pattern.
Bay State	Loose Pin, Wrt. dis socio	Drill Chucks.—Morse's Beach Patent dis 30 %	## Wadaworth's	Oilers,—Zinc and Tindis 50
" '74	Spring Hinges: American Spiral Spring Butt Co., Jap'ddis 25 5	Danbury	N. E. Reversible	S Brass and Copperdis sc Colmsted's
'76	Sabin Mfg. Co.'s Double Actingdis 10 %	Family	N. Y. State	S Broughton's
Augers and Bits. Conn. Valley Mfg. Co	Centennial, Japanned	National	Common Sense	Ox Balls
Douglass Mf . Co	Loose Pill. Wr.   Gls cox103   Spring Hinges   American Spiral Spring Butt Co., Jap'd.   dis 25 5   American Spiral Spring Butt Co., Jap'd.   dis 25 5   Sabin Mfg. Co.'s Double Acting   Gls 33 5   Contennial, Japanned.   dis 25 5   Contennial, Japanned.   dis 25 5   Union Spring Hinge Co.'s.   dis 25 5   American Spring Hinge Co.'s.   dis 25 5   Union Mfg. Co.	Danbury	" Shepard'sNo. 25 @ dos \$6,00, dis 50 5	Trior's Patent or "Paragon" dis soking Ox Balls. di
Ives.  Beecher (French, Swift & Co). dis 50 @ 55 % Griswold.  Nobles Mfg. Co.	Union Mfg. Codis 25 5 Bommer'sdis 25 5	Mill E. Buckets, heavy, 5 to 10 inches (Duc's Improved)  # dos \$0.60 @ \$10.20, net	Rolled Platedis ookto	Round Git
Oriswold	Onto mig. Co.   dis 25	Storehouse, (Duc's Patent) 12 to 17, \$17.00 \( \frac{1}{2} \) \$0.00. \( \text{net} \) \$16 \( \text{micry and Emery Paper.} \) \$60.00. \( \text{net} \) \$16 \( \text{micry and Emery Paper.} \) \$17.00 \( \text{micry Engular Nos.} \) \$18 \( \text{nos.} \) \$18 \( \text	Wrought Strap and T, ilst Dec. 20, '77dis foot to	Picture Nails and Knobs.
Cook's, Douglass Mfg. Codis 50% 5 % C'ook's, Ives'	" Seymourdis osk tok to s	Genuine Chester—Regular Nos	"Providence" over to in. 44c % \$ \ dis to	T. & S. Mfg. Codis 50&10&10
Snell Mfg. Co.'s C. S. Augers	" Lull & Porterdis 60%&10 % " Nicholsondis 45&10 %	" in 10-lb. cans	Screw Hook and Strap 14 to 36 in., 946 dis 50&10 9	Porceiain Head, Sargent's Listdis 50&10&10
" C. S. Bits	Nicholson	Wellington Mills, Grain # B roc net	Heavy Welded Hook 14 in. & up, 9140 dis 30 5	Porceiain Head, T. & S. Mrg. Co
Jennings' Bitsdis 10&10 % Imitation Jenning's Bits	" Sargent'sdis 70&10&10 %	Hampden Emery Grain5c net	Screw Hook and Eye	Magic
Ives' "Jennings" Bits	Humason & Beckley Mfg. Co dis 20 \$	B. & A. Emery Paperdis 15 @ 20 %	Flora - Solid Shank C. S. in. 160	Crown Plating Machines
Andrews Bits	Bradley'sdis 25 %	Enameled and Tinned Ware. Kettlesdis 45 %	Socket	Planes and Plane Irons.
Expansive Bits, Clark's, small'\$18; large, \$2diss 20 %  "Ives	Beatty's	Sauce Pans	Grub dis 30 %	Bench, First Quality
Blake's\$20—dis 40 % Parmelee's\$20 and \$40. dis 33½ %	Beatty's dis 25 % 1 2 3 4 5 0 30.00 33.50 36.50 Hnrt Mfg. Co	Focutcheon Pins.	Scovill Patterndis 25 @ 30 5	Bailey's Patent Adjustable, new list Jan. '77, dis 25&10
Follow Augers Ives	820.00 26.00 26.50 33.00 37.00 4150 45.00	Kacutcheons. dis 33% %	Hick's Pat. Solid C. S. Planters' dis 208:10 @ 30 S	Defiance Adjustable, new list
" Stearns' Adjust., # doz \$48—dis 25&10 %	\$30.00 25.00 26.50 33.00 37.00 41.50 45.00	Brass Thread	Winsted & Lane, Planters	Plane Irons, Butcher's
" Ives' Expansiveeach \$4.50—dis 40 % " Univ'sal Expansive, each \$4.50—dis 20 %	Lyman's	Finacets.	Heeks. Bird Cage, Sargent's list	" Auburn Tool Co.'sdis 25
Gimlet Bits	No. 4, French	Fenn's Cork Stopsdis 40 %	Cotton (Humagon & Backley Mar Co.)	" D. R. Barton Tool Codis 20
Double Cut Gimlet Fits Shepardson'sdis 40 %	Eureka	Frary's Patent Petroleum	Belt, (new list) # c dis 30%10 8	" Ohio Tool Codis 20&10
Hartwell'sdis 60 %	Star	West's Patent Key dis 40 %	" Weston's, No. 1, \$10.00; No. 2, \$5.00 \$ doz dis 25 \$	Sandusky Tool Codis 10&10&10
ii Ives dis 50&10 %	Hicks & Goldmark's G. D. & S. R	Cork Lined dis 708:10 %	" Skinner's, \$6.25 per dosdis 20 %	Button's Patent
Gimlet Bits 27.5 V gross, dis so 5 Diamond 27.5 V gross, dis so 5 Diamond 27.5 V gross, dis so 5 Wee " 28.5 V dis so 5 Double Cut Gimlet Fits Shepardson's dis so 5 Ct. Valley Mrg. Co dis so 6:10 Hartwell's dis 60 Horse's Bit Stock Drill, List of May 16, 78 dis so 6:10 L'Hommedieu's Ship Augers dis 15, 5 Watrous Ship Augers dis 15, 5 A will Hatts dis 15, 5	Capss-Percussien,   1000.	Brass Thread dis code to \$ Wood dis 25   Wood dis 25   Founcets dis 25   Wood and Metallic dis 25   Founcet dis 25   Auburn	Hooks. Bird Cage, Sargunt's list	"Sandusky Tool Co dis 10&10&10 Ero Pilers and Nippers. Button's Patent. dis 33½ Hull's Patent Nippers, No. 1, \$15; No. 2, \$2; \$2 dos, dis 25; Hull's Patent Nippers, No. 1, \$15; No. 2, \$2; \$2 dos, dis 25; Gas Pilers. dis 25½ Gas Pilers. dis 25½ Eaussell's Parailel. dis 25; P. S. & W. Cast Steel. dis 25; "End Cutting Nippers. dis 25; "Inners' Cutting Nippers. dis 25; "Inners' Cutting Nippers. dis 25; "Inners' Cutting Nippers. dis 20; "Inners'
Watrous Shio Augers	" D. W. P. 34 1.35, dia 5 %	American File Co	Ceiling { Hart's list dis 70&10 %	Eureka Piters and Nippers
Prg, "dis 35610 %	Ely's E. B	Arcade	Coat and Hat, Hart's listdis 45&10&2 %	P. S. & W. Cast Steeldis 34
Long	Colt's	Nicholson(Nicholson List) dis 35 %	" Sargent's listdis 66% to % Readingdis 45% to %2 %	Timers' Cutting Nippers dis 20 Plumbs and Levels. Disaton's dis 70 Stauley R. & L. Co.' Pas. Adjustable dis 60&ro. Chapin's Patent Adjustable dis 60&ro. Chapin's Patent Adjustable dis 60&ro. Non-Adjustable dis 60&ro. Standard Rule Co.' New Adjustable dis 60&ro. Johnson's Patent Adjustable dis 60&ro. Johnson's Patent Adjustable dis 60&ro. Johnson's Patent Adjustable dis 60&ro. Davis' Patent. dis 60&ro. Davis' Patent. dis 60&ro. Preget Levels. dis 60&ro. Sanison Post Hole Digger Augers. Sanison Post Hole Digger Der doz \$6.00, dis 20 Fletcher Post Hole Augers. \$6.00 each, dis 20 Vaughan's Post Hole— 6 in. \$25,00; 7, \$ and 9 in. \$3; per doz. Lecd's \$6.00 each, dis 45 Eureka \$6.00 each, dis 45 Petrate Purers. &c. Pags \$13.00 dis 10 Pags \$13.00 dis 1
Leather Top 12.00 dis 35&10 %	Cards.—Horse and Currydis 33/5610 %	Madden & Cockayne File Co\$5.00 to £ cur., dis 25 % Jowitt's \$4.50 to £ gold	Tassel (T. & S. Mfg. Co.)	Disston's
Awis Sewing, Common	Wool	J. & Riley Carr	Wrought Staples and Hooks and Staples, dis 75@ 75&10 % Staples, Stanley's list	Chapin's Patent Adjustable
Sewing, Best. \$\pi\$ gross \$\text{L4}\dots \text{L5}\$ gross \$\text{L4}\dots \text{L5}\$ gross \$\text{L5}\dots \text{L5}\$ partial \$15 \text{ gross } 2.5 - \text{L6}\$ is \$15 \text{L7}\$ is \$15 \text{L7}\$ houldered Brad. \$\pi\$ gross \$\text{L2}\dots \text{L7}\$ gross \$\text{L2}\dots \text{L6}\$ is \$26 \text{L7}\$ in \$15 \text{L6}\$ in \$15 \text{L7}\$ gross \$-\text{L6}\$ is \$26 \text{L7}\$ in \$15 \text{L6}\$ in	Cotton. dis 25cto 3 Wool. (dis 25cto 5 Car Pusher.— Giant" \$5.25 cash, dis 25 c Carpet Stretchers. \$6.02 \$5.00 dis 25 c Iron, Steel Polints. \$\$6.02 \$5.00 dis 25 c \$6.00 \$5.00	Butcher's	Wire Screw Rooks and Eyes	Non-Adjustable
"Shouldered Brad F gross \$2.70—dis 25&10 \$	Iron, Steel Points # doz \$2.00, dis 4525 %	Fisher's 4.75 to £ gold Moss & Gamble 4.60 to £ gold	Whiffletree—Patent	Johnson's Patent Adjustabledis 60&70
"Handled Scratch \$7.50 \$ gross—dis 25&10 \$	Tron, Steel Points   \$\psi\$ dos \$3.00, dis 45.85 \$\chi\$ Casters     Bed	H. Disston & Sons (new list)	Horse Nails Brassdis fod tok to %	Davis' Patent dis 60&10
Brad Sets, Alken's	Deep Socketdis 40 %	Boynton's Cantdis 40 %	Horse Nails  Nos. 5 6 7 8 9 10  Ausable \$ 5 300 270 240 230 230  Figushed,	Post Hole and Tree Augers. Samson Post Hole Diggerper doz \$36.00, dis 20 9
" Stanley's Excelsior No. 1, \$11.00—dis 25&10 %	Hotehkias' Sons'	Knox, 4-inch Rolls	" Finished, dis	Vaughan's Post Hole—
M. H. Jones & Co\$5.00 \$8.50 \$9.00 \$\tilde{\pi}\ \text{doz net.}	Sargent's	Peerless, 4-inch Rolls. 5.00 each net	or Blued " 310 286 260 250 240 230   Bridgewater Iron Co.   Nos. 5 6 7 8 0 10	6 in. \$23.60; 7, 8 and 9 in. \$25 per dozdis 20 5
Axies. Common (Guy C. Hotchkiss, Field & Co.)? b 3%c Solid Collar, Case Hardoned, Chilled Box? b 8c Axle Grease.—Frazer's	Chain. Trace, 014-1 -2 by the cask, # pair 45 @ 46c	Eagle, 3% Inch Boll. \$1,62% each net	Pointed and Polished ; 26s 290 21c 20c 19c 18c	Potato Parers. &c.
Axle drease.—Frazer's # n oc	" 6½-10-3	Euroka, No. 1. 7-inch Roil 6.40 each, dis 2314 \$	Polished of Blued. " 310 286 260 240 230 26 Bridgewater Iron Co. (Nos. 5 6 7 8 9 10 200 200 200 200 200 200 200 200 200	Bay State w doz \$13.00 dis to \$ Saratogs " Peeler and Slicer w doz 7.75 dis to \$ Pruning Hooks and Shears. Disston's Combined Pruning Hook and Saw
Balances. List July 25dis 25&10 \$	German Halter Chaindis 40 @ 40&10 % gold Coildis 40 @ 40&10 % gold	" No. 2 s-inch Roll 550 each, dis 3335 % Crown436-in \$2.625; 6-in\$3.00; 8-in \$5.00 each net	Globe (New list) \ \begin{array}{cccccccccccccccccccccccccccccccccccc	Pruning Hooks and Shears. Disston's Combined Pruning Hook and Saw
Daliances	Union Nut Co	Peerless, 4-Inch Rolls	H. P. Pointed and 26 23 22 30 19 18 dis	Pruning Hook   Pruning Hook & Res   18.00, dispost
" White Metaldis 60&5&10 % dis 20&10 % dis 20&10 %	Chalk.	Champion, 4 in., \$2.14; 6-in., \$2.50; 8-in., \$4.00 each, net Domestic Fluter	North Western Fini'h'd 26 23 21 20 10 18c net	Pulleys.
" Swiss	White	Geneva Hand Fluter	National. Pointed and Polished, Pat. Fin 25 23 22 21 200 net	Tulling snears
Gong, Abbe'sdis 20&10 % Yankeedis 35&10 %	Blue	Combined Fluter and Sad Iron W dos \$12.00 net	Putnam Hammer, Pt'd 26 23 21 20 19 18c net Vulcan P't'd & Blued 26 23 21 20 19 18c net	Brass Screwdis 60% dis 50% dis 50
Sarton's	Chiscis. D. R. Barton Tool Co. (all kinds)dis 20 %	Buffalo	Herse Shees.—Burden. keg \$5.694 R. I. Horse Shee Co., Perkins Improved Light, Medium and Heavy	Span   Screw   dis 60%-610     Frans Screw   dis 60%-610     Jap'd Side   dis 60%-610     Clothes Line   dis 60%-610     Clothes Line   dis 60%-610     Clothes Line   dis 60%-610     Hay Fork Solid Eye, \$4.00   Swivel, \$200, dis 2.60     " "Anti-Friction"   \$7.50 dis 20     " " "F" Common and Pat. Bushed   dis 20     " " Tarbox Pat. Iron   dis 20     Shade Rack   dis 40     Sha
" Grook's	Chiseis.  D. R. Barton Tool Co. (all kinds)	Forges—KevstonePortable Forge Codis 20 %	Medium and Heavy	"Anti-Friction,"
Connel'sdis coêto s	" Hart Mfg. Codis 65&5&10&2 %	Hay, Manure and Spading new list, dis 15 \$\frac{1}{2} Piated" A 1, Rogers & Bro	Perkins' Snow W kee 4.12%	Tarbox Pat. Irondis 30 %
Taylor's Bronze or Plated Lever net Japanned Lever	" Witherby Tool Codls 664 to 5	Fruit and Jeily Presses.	American Ice Chisei	Punches.
Pull, "Hart, Bliven & Mead Mfg. Codis 50&10&2 %	Firmers, Crossman	Forks.  Hay. Manure and Spading new list. dis 15 5 Forks.  Hay. Manure and Spading new list. dis 15 5 Plated" A 1, Rogers & Bro. dis 4085 5 Cash  "Reed & Harton dis 4085 5 Cash  "Fruit and Jelly Presses.  Enterprise Mfg. Co. dis 20 5 Fry Plans.  Burnished. list as follows. dis 6082 5 No. 0 1 2 3 4 5 6 7 8	Novelty Ice Breakers	Spring # doz \$2.00; 2.25; 2.00, dis 40%; %
" Westerndis 25 &dis 25 & 10 %	Witherby Tool Co	No o I 2 3 4 5 6 7 8	Perkins' Snow.  1 ca A wis. Chisels. &cc.  1 American Ice Chisel	Shade Hack
Cow, Common Wroughtdis 20 %	Witherby Tool Codis 70 %	Wo 0 1 2 3 4 5 6 7 8 dos\$3.00 \$3.74 4.24 4.75 5.25 6.00 7.00 8.00 0.00 Acme Patent, same list as above	Iron dos 1.85, dis okto \$	Rait. Stiding Door Wrought Brass # 7 and dis 20 5
Western	" Corner dis 65@70 \$ Tanged Firmers extra dis 40 \$	Gauges. dis 45&10 %	Pick in Handle	Barn Occar 16 % and 76 Inch
" Sargent's dis 50&10 %	" Butcher's\$5.00 @ \$5.25 to £ gold " Newbould's 5.50 to £ gold	" Chapin's	Kitchen Ice Tongs	for N. E. Hanger dis 70& 10 \$
Nos. o 1 1/2 2 3 4 5 5 Hog } dis	Tanged Firmers extrs. dis 495 Butcher's. \$5.00 \$5.55 to \$20td Newbould's. \$5.00 \$5.50 to \$20td Spear & Jackson's. \$00 to \$20td Buck Bros (Shank). \$00 to \$20td	" Chapin's dis 50&10 \$  " Séar dis 55 \$  Wire dis 75 \$  " Smith's Patent \$\psi\$ dos \$18.00, dis 40 \$	Cettles. \$\psi\$ dos \$2.40, dis \$25.05\$  Ettles. \$\psi\$ so is inches inclusive. \$\psi\$ \$50 net  Brass, larger than 15 inches. \$\psi\$ \$20 net  Enameted. \$\psi\$ \$20 net  Enameted. \$\psi\$ \$30 net  Enameted. \$\psi\$ \$350 net  Enameted. \$\psi\$	Raise Door Wrought Brass \$\$\text{\$\exititt{\$\text{\$\exititt{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\
** Yaw's Genuine	Cinmps,	Nail and Spikedis 45 %	Brass, larger than 13 inches W b 400 net	8 10 12 14 16 teeth. \$5.00 5.75 6.50 7.25 8.00 Malleable
" Texas	Adjustable, Gray'sdis 20 % Lambert'sdis 20 %	"Eureka" Gimletsdis 45 %		10 12 14 teeth.
Blacksmiths', Commondis 45 %	Iron, Providence Tool Co.'s, Wrt. Iron.	" Smith's Patent.	" Shoe " Shoe "	Raser Straps.
Moulders'dis 20 %	" Stearns' dis 152 10 % Cabinet, Sargent's dis 60% 10% 10 %	" Hartwell's	Moran's Shoe and Bread Knivesdis 20 %	Badger's Emerson dis 3334 S
Bit Holders.	Carriage Makers', Sargent'sdis 60&10&10 % Cord and Tape (T. & S. Mig. Co.)dis 30 %	Glue Pets	Table and Pocket See Cutlery	Evans'
Wilson's Moore's  dis 50 S   Helieww.   Blacksmiths   Common   dis 45 S   Moulders'   Extra and Pittsburgh Pattern   dis 20 S   Moulders'   dis 20 S   Hand Bellows   dis 20 S   Bit Helders   dis 20 S   Bit Helders   dis 20 S   Extension, Barber's   # doz \$15,00 dis 40 S   Extension, Barber's   # doz \$25,00 dis 40 S   Diagonal   # doz \$24,00 dis 40 S   Angular   doz \$24,00 dis 40 S   Angular   doz \$24,00 dis 40 S   Bilind Adjusters   Domestic   # doz \$24,00 dis 20 S   Bilind Fasteners   Mackrell's   doz \$24,00 dis 20 S   Bilind Fasteners   Mackrell's   doz \$24,00 dis 20 S   Bilind Fasteners   # doz \$24,00 dis 20 S   Washburn's Patent   # gross \$14,00 dis 20 S 20 S   Merriman's   gross \$14,00 dis 20 S 20 S   Merriman's   new list net Bilind Staples.	Clips, Axle.	Family Harrels "Franche "	Ranobard Pocket   See Cuttery   Kanoba.	#3.50
Angular	Cockeyes134 in., 28c.; 134 inch, 33c.; 134 in., 37c, net	Grindstone Fixtures.	" Plush Tipdis 10 % Elastic End. No. 8dis 20 %	Torrey's
Blind Fasteners.—Mackrell'sdis 30 %	Cocks, Brass. dis 50 5 Globe, caseking, new list dis 50 5 Globe, dis 50 5 Globe, dis 50 5 Plain Bibbs, dis 50 5 Ale and Beer, new list dis 50 5 Ale and Beer,	Reading Hardware Codis 40&10&2 6	Elastic End. No. 8	Hivets.
old pattern	Plain Bibbs, " dis 50 %	Hart Mig. Co., Nos o to 11	Plated	In bulk, new list of Jan. 10, 1878
Merriman'snew list net	Coffee Milis.	Grindstone Fixtures.  Grindstone Fixtures.  Sarrent's Patent.  Sarrent's Patent.  Heading Hardware Co. Keystone dis 404x062 5  Hart Mig. Co., Nos q to 11.  Hardware Hardware Co. Hardware dis 404x062 5  Hart Mig. Co., Nos q to 11.  Hardware Sarrent's Hardware dis 504x05 5  Hardware Sarrent dis 504x05 6  Hardware Sarrent dis 504x05 6  Hardware Sarrent dis 504x05 6  Hardware Roble's.  Magnetic Tack.  Magnetic Tack	Plated   Port     Furniture   Plain   750 gross inch, dis 10 \$     Wood Screws   dis 20 \$     Pleture (T. & S. Mfg. Co.)   dis 50 \$     Sargent's   dis 6ok 10 \$     Shutter, Porcelain   dis 60 \$     Fadles   dis 60 \$	Saunder's   dis 10 to 2 15 t
Merriman's new list net  Blind Staples.  Boardman's Paton, ½ in. and larger ₹ 523c dis 10&2 %  \$\frac{1}{2}\$ in. \$\frac{1}{2}\$ joc dis 10&2 \$\frac{1}{2}\$  Blacks.—Burr & Co	Board and Boxdis 20@25, \$ Increase Wilson'snet	all Steel	Picture (T. & S. Mfg. Co.)	Tinned Iron Beit Rivets and Bursdis 40 %
Hlocks.—Bury & Co. # 5 goc dis 108.2 \$ Differential Pulley Blocks. Pendeld Block Works, Rope and Iron Strap'd. dis 20 \$ Pendeld Block Works, Rope and Iron Strap'd. dis 40 \$ Pendeld Block Works, Rope and Iron Strap'd. dis 40 \$ Pendeld Block Works, Rope and Iron Strap'd. dis 40 \$ Pendeld Block Works, Rope and Iron Strap'd. dis 20 \$ Pendeld Block Work	American (Enterprise Mfg. Co.)	Verree	Shutter, Porcelaindis 60 %	Rods.
Penfield Block Works, Rope and Iron Strap'ddis 40 %	The Swift (Lane Bros.)dis 25 %	Warner & Noble's	Meling   Hart's   dis 5,810 5	" American Patent dis 40%
si s	B'r doz \$1500dis 30 %	Kip's (new list, Sept. '78)dis 3316 %	" Reading	Barn Door, Sargent's list
Bolts.	Compasses	Providence Tool Co.'s Hand Cuffs, \$15.00 \$ doz } dis 10 \$	Lapierns.	Acme (Anti-Friction)
Belts. Cast Iron Barrel, Shutter, &c	Dividersdis 55 \$	Tower's	Hurricane	Manifa% inch and larger * 1 1140
Wrought Iron Barreldis 50, 10&10 %	Bemis & Call Co.'s Compasses & Callipersdis 45&55	Nos 5 1 2 3 4 Per dos\$0.80 1.00 1.18 235 1.50dis 65&10 5	PeerlessNo 5, \$\psi\$ dos \$11.75, dis 10&10 \$\psi\$ Brady's Patent	Tar'd Rope
" Shutter (Stanley's list)dis 50 %	Excelsior. dis 40 \$	Roggin's Latches	Atnadis tokso 5 Yankeedis tokso 5	" Lath Yarn
Bush's Lever and Chain Boits	Plain BIDDs	Jap'd Store Door Handles-Nuts, \$1.40; Plate \$1.00 net	Yankee	American Patent dis 425 to dis 42
B.K.Flush, Comm'n, Stanley's dis 30&10%	D R. Barton Tool Co	Barn Doorper dos \$5.00, dis 65&10&10 \$	Lemon Squeezers.	" Hay Rope
Carriage and Tire, Commondis 75&3 % cash	Corn Knives and Cutters.—Bradley'sdis 10 %	Flush Chest	Eureks, Tinned	Chapin's.
" Norway Irondis 70 %	Cast Steel	Saw and Plane dis 60&10 %	Sammls'No. 1, \$7.50; No. 2, \$12.00 \( \) doz., dis 25&10 \( \)	Standard dis 60, dis 55@55
" Plated Knob & Slide Fluar dis locatos and Tire, Common dis 75&3 % cash and Tire, Common dis 75&3 % cash and Tire, Common dis 75&3 % cash and the fluar dis 70 % s. B. & W. dold list dis 70 % s. Fhiladelibris. " " " " " " " " " " " " " " " " " " "	Corn Knives and Cutters, -Bradley's dis '0'	Per dos \$0.50 Loo LiB \$ 55 Lya. dis 6c&10 5 Roggin's Larches \$\pi\$ dos \$0.50 \& \pi\$ Loo net lironsed Iron Drop Latches \$\pi\$ dos \$0.50 \& \pi\$ Loo net lap'd Store Door Handles—Nuts, \$1.00 Plate \$0.50 lap'd Store Door Handles—Nuts, \$1.00 Plate \$0.50 lap'd Store Door Handles—Nuts, \$1.00 Plate \$0.50 lap'd Store \$0.50 lap'd	Police. Small.#7.50;   Neu. #9.00;   Large.#3120. dis20&105     Police. Small.#7.50;   Neu. #9.00;   Large.#3120. dis20&105     Convex Reflector.	Stephens
Tire. Am. Screw Co.'s, Phila	5. % in., \$1.80, 2.00, 2.40	dis 20 %	Sil. Lake ChalkNos. o, z, 2, 3, \$6.00, \$6.50, \$7.00,	Self-Heating. # 1 234@256c net
" Coleman. dis octro e	Curry Combs.	Apple 4 assorted, gross \$5.25	Mason's Linen	Gleason's Shield and Tollet
Stove—American Screw Co.'sdis 55&5 @ 60 >	Pitch's (List of No. 240, \$1)	Apple	Locks and Latches.	Enterprise Patent Cold Handle
"Union Nut (o	Jury Comb Mig. Co	" Framing " assorted, " 5.00 20210 %	Barnes & Deitsdis 2582 \$	Combined Fluter and Sad Iron. per doz \$15.00, dis 15 \$
Machine	Curtain Pins.—Silvered Glass	Auger, assorted, # gross	Trunk Bridgeport Lock Co	Baeder & Adamson's Flint, co to 11/2\$4.25 \( \psi\) ream
Horing Machines. Upright. Angular. First quality, no Augers\$5.00 \$7.50 dis 40-810 \$1	Cutlery. Go (Table)	Patent Auger, Ives'dis 25&10 %	Round Keydis 40&10 S	** Star 3.25 F ream 120
First quality, no Augers \$5.50 \$7.50 dis 40&10 5	Lm. Milier Bro.'s Cutlery Codis 25 \$	Hangers -Anti-Friction dis rotros	Barnes & Delts, Flat Key	New England, same list as B. & A. Flint dis 15@20 \$
Second qu ty, no Augers 2.35 3.00 net	Saugatuck Cutlery Co	Sarn Door dis 70% 10 @ 70% 10 % 70% 10	Yale Lock Co., Flat Keydis 40 % Shepardson's, Flat Keydis 35 %	Gage'sdis 30&5 %
Snell's, no Augers 4.75 6.25 dis 40 %	Dog College (Table)net	Challenge dis 50 % di	American Lock Mfg. Co	Common
Bow Pins. Union Nut Co dis 60&10 \$ 1	mbossed Gilt	terling Improved (Anti-Friction)dis 75&10 \$\ \text{Cheritree}dis 20 \$\ \text{dis 20 \$\ \text{dis 20 }\}	F. Many's "Extension Cylinder"\$10.50 \( \) doz, net   1   Door Locks, &c.	White Cotton 9 25 550 net
soit Ends	Poor Springs.	Harmess Smaps.   donahaw's	Norwalk dis 50k10&2 %	Raw Hidedis 25 \$
Bargent & Co.'s \$19.70 and \$21.40, dis 60&10 \$ 7 Braces.—Barber's Patent	orrey's Rod	udd's	Russell & Erwindis 50&10&2 %	Bash Locks.
O. S. Backus dis socio 7 J Wilson afg. Co. dis 10 7	ohnson's Rod	lotchkiss'	Reading Hardware Co	Ferguson's
Wilson #fg. Co	Image   Japanned	Indrews	Reading Hardware Co.   dis 354rotz 5   Frenton   dis 408-\$52 5	Fereuson's
Spoffond's Patent	No. 3, Small, " Hos 2,00 Challenge (Coil)— Nos. 9	Germandis 65&10 %	Mallory, Wnooler & Co dis 331664 \$	The Perfect, Clark & Smith Plain Jap d # gro \$10.00 net
Brackets.—Shelf (Sargent's). dis tokto 6 60% 10% 10 8	Japanned	### Acceptance   ### Ac	" American Lock Mrg. Codis 3314 %	"Nickel-Plated # gro 27.00 net
Bright Wire Goods	Nickeled	Lathing, Nos. 1 2 3 # doz 7.75 8.60 2.25	Cohestoga. dis 50 %	Sausage Stuffers or Filters.
Hotchkiss dis 66% to 5 P	Japanned	Shingling Nos sas Wdon 6	Barnes & Dietz dis 30 %	Perry
rumacon, Heckley & Co.'s	Nickeled	Lathing, Nos. 1 2 3 dog 7.75 8.50 9.25	Mailets.—Hickory and Lignumvitssdis 10 %	Enterprise Mrg. Co
Hattas dis 65 ft Tought Brass dis 65 ft Cast Brass, Tiebout's dis 65 ft Corbin's dis 45 ft Corbin's dis 56 ft 65 f	No. 4, ("Snoo Fly") Screen door size & doz \$1.80	Claw, Nos. 1 2 3	American Lock sity   Co.   Gls 334 5	Baws. die 25 5
Cast Brass, Tiebout's	No. 6, Medium		Wiles' Challenge Nos. 1 2 3 Condition of	Mill Gross Cot
Fast Joint, Narrow	abin's Lever. No. 1, \$1; 2, \$1.50; 3, \$2; 4, \$2.50; dis 30 \$ abin's Boss	Shingling, Nos. o 1 2 3 4 dos \$7.50 \$8.00 \$8.50 \$0.00	Perry's Nos. 1 2 3 4 4g'rd 5g'rd	Hand, Panel, Rip, &cdis 20 \$
Broad dis 65&105 P	niiadelphia5 in., \$5.00; 8 in., \$7.00, dis 35 % arker's Concealed	Lathing, Nos. 123# doz 0.00 0.50 10.00 W	Woodruff's (P. S. & W.)Nos. 100 140	" Mill, Gang and Mulay
Parliament Butts	oweil'sNo. 1, \$18.00; No. 2, \$15.00 \$ doz, dis 50 \$ ubber, complete	Nos. 56 7 8 # dos 16.00 12.00 12.00 14.00	Hales'	E. M. Boynton's Lightning, Cross Cutsdis 5085 \$
Mayer's Hinges dis	rosman's No. 1	Shingling, Nos. 1 2 3 # dos \$0.00 \$6.50 \$7.00	Miles' Challeuge	Buck Saws (X Bar). F dor \$15, dis 40% 10 %   Billet Webs
Broad dis 60&10 % D Broad, Japanned dis H	R. Barton Tool Co	Lathing, Nos. 1 2 3	American 4 2 3 4 B 5	Wheeler & Clemson Mfz. Co.'s Hand
Loyse Joint  Japanned dis 70&10 % M  With Acorns dis 624&10 % A  Parliament Butts dis 624&10 % A	obles Mfg. Co	Shingling, Nos. 123 # dos \$11.00 \$10.50 \$10.00	Kach \$4.00 7.00 10.00 25.00 50.00 60.00	Silver's   dis 25   Seaws     Seaws   dis 25     Seaws   dis 30     Mill   dis 30     Mill   dis 30     Cross Cut   dis 20     H. W. Peace's Circulars   dis 20     H. W. Peace's Circulars   dis 25     H. W. Peace's Circulars   dis 25     Mill, Gang and Mulay   dis 45     E. M. Boynton's Lightning, Cross Cut   dis 50     Cross Cut   dis 20     Cross Cut   dis 20     Mill, Gang and Mulay   dis 45     Cross Cut   dis 20     Mill, Gang and Mulay   dis 25     Cross Cut   dis 20
Parliament Buttsdis 6214&10 % A	djustable Handie dis 35 \$ djustable Handie dis 35 \$ djustable Handie dis 30 \$	Half Hatchets. Nos. 123 # dos 11.00 10.50 10.00 9.	Genuine dis forto	Nos 103 103 104 105
Inyer's Hinges	Nickeled	Cashing   Nos. 1 2 3	American   3   4   8   5   5	Nos 101 103 103 104 105 Fer dos. Staco & 10.00 1.00 104 105 Eaw Frames. White, Vermont
Acorns. dis 70210 5 mg	acksmiths	Half. Nos. 1 2 3 dog 8.50 8.00 7.50 B	Jucoju s Genuine	White, Vermont
and a second law to be	# # # # # # # # # # # # # # # # # # #	7.50 1	weed's dis 15 5	w Hods Bte list die, sollte

Naw Sets.	
Boynton's Patentdis 40 %	Ventilators. Protective (upper) per (lower)
Baw Seis.  Boynton's Patent	Ventilators. Protective (upper) protective (upper) protective (lower)  Washer Cutters Johnson's. Penny's. Appleton's. Washers.—See N Weather Strips. Protective Ventilato Well Wheels.—Re Wire.
Leach's No. 0, 85.50; No. 1, \$15.00, dis 15 % Nash's No. 1, \$8.50; No. 2, \$5.50, dis 2082.0 \$  Hammer, Hotelskiss Scall Co. 18 Nov. Bat. 18 5.50, dis 20 \$1.50.0 \$1.50	Penny's
Bemis & Call Co.'s New Pat. Lever dis 40% Date & Call Co.'s New Pat. Lever dis 20% to \$ Aiken's Genuine \$13.00, dis 40% to \$	Weather Strips. Protective Ventilato
Imitation	Wire. Brass and Copper Bright and Annealed
Scales.   Hatch, Counter	
Union Platform \$6.00, dis 50 % Turnbull's Market dis 20 % Fairbanks' dis 20%5 %	Coppered
Howe's dis 20% 5 Chatillon's Grocers' dis 40 % dis 40 % Eureka dis 20 %	Tinned, Nos. o to is Cast Steel Tinned Broom Wire, Annealed Fence, Nos Grape, Nos Galvanized Telegrup
Family Universal	Grape, Nos Galvanized Telegrap
Scale Beams, Chatillon's list	Fence Staples
Box, I Handle	Fence Staples Staples, Galva: Stubs Steel Wire Japanned Barb Fence Galvanized Steel Music Wire. No Judd's Picture Wire. Clotnes Line Wire, G Wrenness.
Foot	Stael Music Wire, No Judd's Picture Wire.
Screw Drivers.  Hart, Bliven & Mead, new listdis 45&10&2 % Douglass Mig. Co	Wrenches. American Adjustable
Disston's	Collins & Co.'s
Scrapers   Sargent's list.	" Pattern (Wrou
Screws. Flat H'd Irondis 60 % Round Head Irondis 45 %	Lindsay's " Taft's Pattern
Fiat Head Brass	Bemis & Call's Patent
Japanned list of Plain Screws dis 50 % Lag or Common Coach	Aiken Pocket (Bright
Machine, Flat Head, Iron, Am. Screw Codis 25 % Round Head, Iron, "Common dis 20 %	Wringers. Universal, Cog Whee
Wood, Beach Gis 83.00, net Hickory Gis 20&10 \$	Crown No. 2
Hand Rail, Sargent's	" No. 3 Eureka, No. 1 Novelty, No. 10, with
Sargent & Co.'s	Excelsior, No. A, with
Cast Steel	No. 2, Iron No. 10, Wood No. 10, Wood
" Scissors	Gudd's Picture Wire. Gudtes Line Wire. G Wrenches. American Adjustable Diagonal. Collins & Co.'s. Coss' Genuine. "Pattern (Wroug Girard. Linday's (Malles Bemis & Call's Paten Grand
Heinisch Trimmers and Scissors. dis 20 % Heinisch Trimmers and Scissors. dis 60 %	Stamped Tinwa
Jack (Wilson's)  dis 30 %	Stamped Tinwar Common Stamped W Stamped Deep and 1
Fatent Roller	MI
Mussell's Anti-Friction	IRONDUTY: Bar
Sargent's list	of the above Iron at per cent. Pig. \$7 Wrought Screen
Bhovels and Spades.  dis 32/4 5  Ames dis 35/4 5  Ames di	IRON.—DUTT: Bar Hoop and Scroll, 13 of the above iron as per cent. Pig. \$7 Wrought Scrap, \$8 Railroad 70c. \$1 100 Pig iron—AMERICAS Foundry No. 1 "No. 2 Gray Forge
Rimball Shove: Co	Gray Forge
Dunning's snovels and scoops. dis 30274 % Rowland's "Regular," new list. dis 50 %  "Patent, new list. dis 4025 %	Eglinton
Shovels and Tongs.  Fron and Brass Head, R. & E. list	Rails. Iron, at mill. Steel, " Old Rails.
Polished Steel new list, dis 50 % 10 % 2 % Histes. Square Frames. Round Cornered, by casedis 70 %	Borap. Wrought Scrap, fro
Less than a case	Common Iron: % to 2 in. round and 1 to 6 in. x% to 1 in.
fron	Refined Iron: % to 2 in. round and 1 to 6 in.x% to 1 in. 1 to 6 in.x% and 5-16 Rods—% and 11-16 rot Bands—1 to 5x3-16 to Swedish Iron:
Spoke Trimmers.  Bonney's # doz \$10.00, dis 40 \$ Stearn's # doz \$10.00 dis 40 \$	Rods—% and 11-10 rot Bands—1 to 6x3-16 to Swedish Iron:
lves'No. 1, \$15.00; No. 2, \$12.00 ♥ dos, dis 40£10 % Douglass'₩ dos \$9.00, dis 20£10 % ™maguis	Ordinary sizes COPPER.—DUTY: per, 40 % B; Manufi which Copper is a co
Hart's   dis 50&70&2	which Copper is a c valorem. American Ingot SHEATHING, BR Braziers' Copper, ord
Derby Silver Ce	Braziers' Copper, ord
Reed & Barrott Clis 4025 5 Hall & Elton Clis 4025 5 Holmes, Booth & Haydens Clis 4025 5 Garran Silver Clis 56 5	over 12 08., * sq. ft Braziers Copper, 10 0
Diamond Steel (L. Boardman's Sous)dis 30&5 % Tin (P. S. & W.), Teas	Circles less than \$4 in Circles \$4 in. diamete Segment and Pattern
Fin Cowles Hdw. Co.) dis 10 % Case lots dis 20 % Stocks and Dies dis 4270 §	Locomotive Fire Box Sheathing Copper, ov Bolt Copper
Stene. Hindostan Stone	Bragiers' Copper, or # 84, ft. Bragiers' Copper, or over 12 0.8, # 84, ft. Bragiers Copper, 10 0.4 Elicise less than \$4, inclinate Segment and Pattern Locomotive Fire Box Sheathing Copper, ov Bott Copper Bottoms. No Copper Bottoms. No Copper is Sheat to exceed \$4, 0x. to the
Sand Stone P 5 cc, dis 30st 10 %	14x48, by the case 14x48, less than case. For tinning both sic O'NEILL'S PATENT PL
** No 2, \$\pi\$ 16\forall dis No 1, \$\pi\$ \$\pi\$ \$\pi\$ dis Arkansas Stone No 1, \$\pi\$ \$\pi\$ \$1.00 10 \$	O'NEILL'S PATENT PL
" SlipsNo. 1, \( \Phi \) \$0.85   " SlipsNo. 1, \( \Phi \) \$2.25   Turkey Oil Stone (Boyd & Chase)4 to 8in, \$1.00 \( \Phi \) \$n,	7 in., 14x52.
dis to % Slips Lake Superior (Boyd & Chase) \$2.50 \$ \$ \$, dis to \$	7 in., 14×52. 14 and 16 oz. and heav (And all siz 14 and 16 oz. and heav
Stove Pelish.	12 Of
From   From \$4.50, dis 5 %   Gold Medal   From \$6.00, dis 25 %   F	Nos. 10 to 20
Ruby gross \$2.75, net gross \$5.75, net gross \$5.75, net	21 to 24 25 to 26 27
Steel	25
Try Squares and T Beveis	Patent Planished
winterbottom's Try and Mitredis 20&10 % Bailey's Try Squares and T Bevelsdis 25&10 % Thacks, Brads, &c.	Patent Planished
List of May, 1878dis 55 @ 55&10 %	Brown & Sharp's Gaug English Gaug BRASS MANUFACTUR
Double-Pointed Tacksdis 4085 4	BRADE MALIOTACION
Double-Pointed Tacks	Cash prices for Roll tity than 100 Bs. add
Double-Pointed Tacks dis 408; 7 Tap Borers dis 208: 05 Tap Borers dis 208: 05 Tapes, Mensuring dis 208 Tapes, Mensuring d	Cash prices for Roll tity than 100 Bs. add All Nos. not thinner i not wider than 14 in
Double-Pointed Tacks.         dis 9085 %           Tap Horers.         dis 9085 %           Common and Ring.         dis 20810 %           Lower Tap Borers.         dis 10610 %           Enterprise Mfg. Co.         dis 20 %           Tapes, Measuring.         dis 25 %           Spring Tapes.         dis 25 %           Thermometers.         dis 506 to 820 %           Illa Case.         dis 606 to 820 %	Cash prices for Roll tity than 100 Bs. add All Nos. not thinner ont wider than 14 in All Nos. to No. 28, inc. 20 in., inclusive All Nos. to No. 28, inc.
Double-Pointed Tacks	Cash prices for Rol tity than 100 Bs. add. All Nos. not thinner not wider than 14 it All Nos. to No. 28, im- so in., inclusive All Nos. to No. 28, im- jo in., inclusive Idc. # B advance on a cinaive.
Double-Pointed Tacks	Cash prices for Roll tity than 100 Bs. add : All Nos. not thinner t not wider than 14 iz all Nos. to No. 28, ins 20 in., inclusive
Double-Pointed Tacks	Cash prices for Roll tity than 100 Bs. add all Nos. not thinner t not wider than 4 if all Nos. to No. 28, im 20 in., inclusive  All Nos. to No. 28, im 20 in., inclusive  Lic. W B advance on clusive  All Brass thinner tha Sheets 24x,8, and all and lengths under 3 Printers' Rules  Sheets wider than 30 in., inclusive
Double-Pointed Tacks	Cash prices for Rol tity than 100 hs. add All Nos. not thinner in not wider than 14 in All Nos. to No. 28, in 20 in., inclusive
Double-Pointed Tacks	64 68
Double-Pointed Tacks. dis 9085 % Tap Borers. dis 20810 %  Tap Borers. dis 20810 %  Lower Tap Borers. dis 20810 %  Enterprise Mg. Co. dis 20 %  Tapes, Measuring. dis 25 %  Spring Tapes. dis 25 %  Thermometers. dis 20 %  Thermometers. dis 20 %  Tobacce Cutters, dis 60 %  Tobacce Sutters, dis 60 %  Traps, dis 60 %  Newhouse Pattern, dis 60 %  Sutters, dis 60 %  Newhouse Cutters, dis 60 %  Nouse, West Sutons, dis 60 %  Nouse, West Sutons, dis 60 %  Tobacce dis 90 %  Round Wire, \$\frac{9}{9}\$ dos \$2,0,0 dis 10 %  Patent Self Setting, %  House dis 60 %  Patent Self Setting, dis 10 %	40 ♥ 5 more than H Gilding Metal, 50 ♥
Mouse, Wood. Choker	40 V 5 more than H Gilding Metal, So V Platers' or Gold Meta Metal in width 2 in. t
Mouse, Wood. Choker	40 % 5 more than B Gilding Metal, So % Platers' or Gold Meta Metal in width 2 in to 2 advance. Metal, in width 2 in to
Mouse, Wood. Choker	40 \$ 5 more than E gilding Metal, so \$\frac{1}{2}\$ Platers or Gold Meta Metal in width 2 in the 5 advance.  Metal, in width 2 in the 5 advance.  Metal, inwidth 1 in the 5 advance.
Mouse, Wood. Choker	40 \$ 5 more than E gilding Metal, so \$\frac{1}{2}\$ Platers or Gold Meta Metal in width 2 in the 5 advance.  Metal, in width 2 in the 5 advance.  Metal, inwidth 1 in the 5 advance.
Mouse, Wood, Choker	40 % more than E Gilding Metal, So % Platers' or Gold Meta Metal in width 2 in to 3 advance. Metal, in width 2 in to 4 advance. Metal, in width 1 in . 10 advance. Metal, in width 1/5 in . No. 28, 20. % 3 advance. Metal, in width 1/5 in . 3 advance. Metal, in width 1/5 in . 3 advance.
	40 % 5 more than E Gilding Metal, so w Platers or Gold Meta Metal in width 2 in the advance. Metal, in width 2 in the advance. Metal, in width 1/4 in. No. 28, 20. % 5 advance. Metal, in width 1/4 in. So advance. Metal, in width 1/4 in. So advance. Metal, 3/4 in. in width 1/4 in. So advance. Metal, 3/4 in. in width 1/4 in. So advance. Metal, 3/4 in. in width 1/5. % 5. GERMAN SILVEI
	40 W more than Hollding Metal, so w Platers' or Gold Meta Metal in width 2 in. to advance. Metal, in width 2 in. to advance. Metal, in width 1 in. sadvance Metal, in width 1/4 in. No. 28, 20. W a dva Metal, is in width 1/4 in. b advance. Metal, 3/10. in width Any of the above wid 70. W B.  4 per cent., is inch, to
Mouse, Wood, Choker	40 % more than E wilding Metal, so % Platers' or Gold Meta Metal in width 2 in. to advance. Metal, in width 2 in. to advance. Metal, in width 1 in. sadvance Metal, in width 1/4 in. No. 28, 20. % B adva Metal, in width 1/4 in. a divance. Metal, 1/4 in. in width 1/4 in. a divance of the above wid 70. % GERMAN SILVER 10 in. in width 1/4 in. in wid
Mouse, Wood, Choker	40 W more than Hollding Metal, so w Platers' or Gold Meta Metal in width 2 in. to advance. Metal, in width 2 in. to advance. Metal, in width 2 in. to advance Metal, in width ½ in. No. 28, 20. W a advance Metal, ½ in. in width ½ in. b advance wid 70. W B.  4 per cent., 12 inch, to German Silver Shemore than 10 Bs., \$2. Advance z. Eve each 1 in., and 2c. W B on 2 in., and 2c. W B or 2 in.
Mouse, Wood, Choker	GEMAN SILVEI  A DE COMPAN SILVEI  B DE COMPAN SILVEI  A DE COMPAN SILVEI  B DE COMPAN
" Blake's Patent	40 \$\psi\$ more than B ciliding Metal, so \$\psi\$ Platers' or Gold Meta Metal in width 2 in to advance. Metal, in width 2 in to advance. Metal, in width 1 in advance. Metal, in width \$\psi\$ in Metal, in width \$\psi\$ in Metal, in width \$\psi\$ in Metal, in in width Any of the above wid 70. \$\psi\$ metal \$\psi\$ in in width Any of the above wid 70. \$\psi\$ metal, \$\psi\$ in in width Any of the above wid 70. \$\psi\$ metal, \$\psi\$ in in width Any of the above wid 70. \$\psi\$ metal, \$\psi\$ in in width Any of the above wid 70. \$\psi\$ metal, \$\psi\$ in in width Any of the above wid 70. \$\psi\$ metal, \$\psi\$ in in width Any of the above wid 70. \$\psi\$ metal, \$\psi\$ in in width Any of the above wid 70. \$\psi\$ metal, \$\psi\$ in in width Any of the above wid 70. \$\psi\$ metal, \$\psi\$ in in Metal, \$\
Mouse, Wood. Choker	GENNAN SILVE!  40 W more than E Gilding Metal, so w Platers' or Gold Meta Metal in width 2 in to sad vance.  Metal in width 2 in to sad vance.  Metal, in width 1/2 in to sad vance.  Metal, in width 1/4 in No. 28, 20. w B advance.  Metal, in width 1/4 in B advance.  Metal, is nin width 1/2 in B advance.  Metal, is in in width 1/2 in B advance.  GERMAN SILVE!  4 Der cent., Is inch, to sad vance.  5

r	THE IRO
entilators.  tective (upper) per foot, \$1.00	No.22
(lower) 1.90	NO.22
Smith's Patent	NO.25 98 NO.26 50 NO.27 43 NO.26 47 NO.20 50 NO.31 53 NO.31 53 NO.32 57
bleton's	No.28
Veather Strips. tective Ventilator Co. 8dis 25 %	No.31
Tre.  List of July 1 222 die 10 %	No. 33
ght and Annealed	NO. 32
Nos. 27 @ 30,dls 62 @ 65 % Dered	Fancy Wire not less than roc Wire.
"Nos. 7 to 18market list, dis 30 @ 35 % ned, Nos. o to 18dis 40 @ 42\%	Brass Rods, No. 8 and larger lengths, 33c.
t Steel	lengths, 33c. Wire straightened and cut, s not less than 2 feet lengths, 38c Wire and Rods less than 2 fee Twelve cents per B extra for
Grape, Nos. 10 to 14	Twelve cents per a extra for MISCELLANE Common Plain Brass Pail Ears
Nos. 10 and 11 # B 9%0 No. 12 # B 100	Common Plain Brass Pail Ears Brass Door Rall
ce Staples	High Brass Scrap.
anned Barb Fence. # B 14c	Gilding Turnings, Filings and Chips ha
el Music Wire, Nos. 12 to 27 # B \$1.00, net d's Picture Wire	Low "Gliding. Turnings, Filings and Chips ha Terms—Net cash. Interest to
State   Stat	Plain to No. 20 inclusive, above a sin above 3 in Nos. 21, 22, 23, two cents advant Number. Nos. 24, 25, 26, four cents advant Number. Above No. 26, special rates. Plain, 34 inch.
ter's Adjustable "S," dis 20 g " Diagonal dis 20 g	Number.
s' Genuinedis 45 g	Number. Above No. 26, special rates.
" (Malleable)	Plain, k inch
dsay's dis 25 5	All Mandrel Drawn Tubes, 5 cer Prices.
nis & Call's Patent Combination	English, Scotch and Extra Pat
" Briggs' Pattern dis 25&10 % Cylinder or Gas Pipe dis 25&30 %	Tubing Sawed or Cut 2 to 4 fe
en rocket (bright)per doz \$8, dis to % Favorite Pocket (bright)per doz \$8, dis to % Vringers.	Add to 2 cents 1/2 cent for each under 2 feet.
versal, Cog Wheels, No. 216	pound advance.
wn No. 2	PlainFancy
" No. 3 69.00 eka, No. 1 57.00	Scotch and Extra Patterns GERMAN SILVER
velty, No. 10, with Cog Wheels	o "
" No. E, for Set Tubs	15 "
No. 10, Wood "Common Gear 60,00	10 of
11088, NO. 2	STEEL DUTY : Bars, ingo
towned Winney New List Dec. 19-8	ents, and not above 11.3 cent
tamped Tinware.—New List Dec. 1, 1878. nmon Stamped Ware	that Metal cemented, cast or Bessemer or pneumatic proce
	vanceus, or university of the court, a cent with the court, a cent with the court of the court o
METALS.	Spring. Homogeneous. Boiler Plate.
ONDUTT: Bars, s to 134c. W b; Sheet, Band	
ON.—DUTY: Bars, s to 136c. \( \mathbf{P} \) \( \mathbf{D}_1 \) Sheet, Band cop and Scroll, 134 to 14c. \( \mathbf{P} \) \( \mathbf{P} \) ; provided, that none the above iron shall pay a less rate of duty than 35 er cent. Pig. \( \mathbf{P} \) \( \mathbf{P} \) \( \mathbf{P} \) ton; Polished Sheet, 3c. \( \mathbf{P} \) \( \mathbf{P} \) irrought Scrap, \( \mathbf{P} \) \( \mathbf{P} \) ton: Cast Scrap, \( \mathbf{P} \) \( \mathbf{P} \) er ton. allrond 7cc. \( \mathbf{P} \) is one. Boiler and Plate, 136c. \( \mathbf{P} \) is transfered.	Machinery (round and square). File. Sheet. Saw Plate, mill and mulay. gang and X cut circular as to size. Chrome Si
rought Scrap, \$8 \$\pi \ton: Cast Scrap, \$6 per ton. allroad 70c. \$\pi 100 \text{ bs. Boiler and Plate, 1}\footnote{c. }\pi \text{ b.}	Saw Plate, mill and mulay gang and X cut
r I FON—AMERICAN.  DUNDARY NO. 1	Chrome Si
BCOTCH. # ton 14.50 @ 15.50	Tool. Tool, extra fine
glinton	Spring. Machinery. Gun or Homogeneous
on, at mill	English Steet.—Payable in g Best Cast. Extra Cast.
d Rails	Round Machinery, C.
	Blister, 1st quality
to 2 in. round and square	" 2d quality
to z in. round and square	" 2d quality " 3d quality Sheet Cast Steel, 1st quality " " 2d quality " " 3d quality
# D 2.00  to 5 in * y and 5-16.	ANTIMONY
ndinova sisse	LEAD.—DUTY: Pig \$2 \$2 100 1 Pipe and Sheet, 2%C \$2 10. American.
PPER.—DUTY: Pig, Har and Ingot, sc; Old Coper, ac \( \pi \) b; Manufactured (including all articles of hich Copper is a component of chief value), 45 \( \pi \) ad	Pipe.
hich Copper is a component of chief value), 45 % ad alorem.	Tin Linea Pipe
dorom. # 5 5ce Trade Report. snex*mino, snazzana* corren, sours, &c. slex*mino, snazzana* corrent, snazzana* snazzan	BARRET ME
asers copper, ordinary stress, to or. and	N. P. U.  A 200: B, 460: C, 120: D 100 %  TIN,—DUTY: Plates, Sheets, T  B; Elecro-galvanized Plates,
ver iz 08., \( \psi \) aq. ft. \( \psi \) \( \psi \) age zers Copper, io oz and iz 0z., \( \psi \) aq. ft. \( \psi \) \( \psi \) \( \psi \) 29c Lighter than io oz. \( \psi \) aq. ft \( \psi \) \( \psi \) 31c	of, not enumerated, 35 per cer and Pigs free. Banca, subject
Lighter than 10 Ok. \$ 80, 17 . \$ 3 310	Banca. Straits. English
omotive Fire Box Sheets	TIN PLATES, CURRE
ner Rottoms & S to 250	I C 10X14 12X12 Prime Charcoal
o Copper is Sheathing except 14x48 inches and not xceed 34 oz. to the sq. ft. TINNING.	12x12 Prime Charceal
18, by the case	D C 1216 X 17 " D X 1216 X 17 " For each additional X add
NEILL'S PATENT PLANISHED COPPER.—Dis 7% @ 10 %.	COKE TIN PL. Best. 2
z. and lighter \$ B 340 217 the case. \$ B 330 z. and lighter \$ B 350 " " \$ B 560	I C 10X14 )
7 in., 14x52. 8 in., 14x55. 9 in., 14x60. nd 16 oz. and heavier. * 3 560 By the case. * 3 300	Prime Char. ad
(And all sizes not over 20 in. wide.)	I C 14X20
nd 16 oz. and heavier	IX 20X28 (a) 10.00
Commen R. G. American. American.	I C 20X200 6 17.50 I C 14X20 M. F. Brand SOLDER
. 10 to 20	SPELTER-DUTY: In Pigs,
27 ₩ 3360 436	American, cash Bergen Port from LehighOre Lehigh, on spot
vanized, 14 to 20, B.B. Who big ; 2d qual. Who sign	ZINCDUTY: Pig or Block,
	Sheet, CaskOpen
ent Planished	Paper Steck, Ol
sile	(Dealer's Selling
SHASS MANUFACTURERS' PRICE LIST.—dis nominal.	Canvas linen
sh prices for Roll and Sheet Brass. For less quan- than 100 Bs. add 30 W B. HIGH BRASS.	White linen rags, No. 1
Nos not thinner than to No. of wider than a te	Mixed woolens
Nos. to No. 28, inclusive, and widths over 14 to	Soft woolens
Nos. to No. 28, inclusive, and widths over 20 to in., inclusive	Gunny bagging. Jute Butts Kentucky bagging. Waste paper and scraps. Rope cuttings. Kentucky bale rope.
naivo	Kentucky bale rope
Brass thinner than No. 38 is Platers' Brass, at48c ets 24x48, and all sheets cut to particular sizes id lengths under 30 in., in width wider than 2 in. 32c	Grass rope
ders' Rules	Envelope
OVER 14 " 20, "400	Soft "No. 1 White Shavings, No. 2
4 01 40 40, 40, 40	Soft White Shavings, No. 1 White Shavings, No. 2 Mixed Shavings, part white. Imperfections, No. 2, best folde No. 1. Heavy Sto Book Stock.
* 5 more than High Brass,	Book Stock  Heavy  Light
ters' or Gold Metal Sawed 400  (Planed or Polished 400	The training of the contract o
at to width a in to 16 in to No of inclusive on 10	Prints. Pure Manilas. Bogus Manilas and Hardwares.
al in width 2 in. to 14 in. to No. 28, inclusive, 10. \$\psi\$ advance. al, in width 2 in to 1 in., thinner than No. 28, 20. \$\psi\$	Binders' Board Cuttings
tal, inwidth 1 in. to 1/4 thinner than No. 28, 30 W 2	Straw Board Cuttings
dvanc al, in width 1/4 in. to 1/4, inclusive, not thinner than 0, 28, 20. \$\tilde{\pi}\$ advance. al, in width 1/4 in. to 1/4 thinner than No. 24, 9c. 48	Old Mate
al, in width 1/2 in. to 1/4 thinner than No. 28, 9c. 48 advance.	Copper Bottoms Yeliow Metal
advance. al, i in. in width and less, sec. # B advance, of the above widths out to particular lengths, add . # B.	Brass, light.  "heavy. Heavy Composition
Manhat Manh	Old Lead, solid
er cent., 12 inch, to No. 26	Tea Lead. Zinc. Pewter, No 1. No. 2. Wronget Iron
64 64 64	
erman Silver Shests over 12in. wide and weighing re than 10 Bs., \$2.00 & B.	Machinery Iron. Light Iron. Stove Plate. Grate Bars.
L, and so t a on once and and the same see so to	Paints, Oi
il German Silver thinner than No. 36 is Platers, at	Painte
nchusive ii German Silver thinner than No. 36 is Platers, at \$\psi\$ additional. erman Silver Scrap one-half less than net price of n. Market Metal. derman Silver Turnings, Pilings (Chips, half the price of Scrap.	Riack Lamp, Coach Painters Ordinary Ivory Drop, fair
BRASS AND COPPER WIRE. Gild'g and	best

HE INON AGI	4
No.22	В
No ar	Bi
NO.27	Gi
No.31	îr
NO.33	
No.32	м
Brass Rods, No. 8 and larger not less than 2 feet	R
lengths, 32c. Wire straightened and cut, smaller than No. 8, and not less than 2 feet lengths, 38c. Wire and Rods less than 2 feet lengths, special rates. Twelve cents per B extra for spooling on 1 B spools.  AMBGELLAFROUS. Common Plain Brass Pail Ears. \$0.36 Brass Door Rall. \$CRAP.—net. High Brass Scrap. Low "136C	
MISCELLANEOUS, Common Plain Brass Pali Ears	Re
High Brass Scrap	U
Gilding	V
days.  Plain to No. 20 inclusive, above 34 in. to 3 in	
Nos. 21, 22, 23, two cents advance on List for each Number. Nos. 24, 25, 26, four cents advance on List for each	W
Nos. 24, 25, 26, four cents advance on List for each Number. Above No. 26, special rates. Plain, ¼ inch	Y
Plain, ¼ inch	Zi Zi
Prices. Fancy Tubing to No. 20  45C English, Scotch and Extra Patterns Fancy Tubing to No. 20  Tubing Sawed or Cut 2 to 4 feet long 2 cents ad-	
vance on List.	Li Bi
under 2 feet.  All Mandrei Drawn Tubes under ½ in., 25 cents per pound advance.  ZINC TUBING.—net.  Plain	SI
Plain	PINOW
6 4	E1 M
15 ·	FI No
rii et	E
valued at 7 cents # B., or under, 24% cents; over, 7 cents, and not above 11, 3 cents # B; over 11, 3% cents # B b and 10 & advail. Hallway Bars. 14 cents # B.	
STEELDUTY: Bars, Ingots, Sheets and Cols, valued at yoents \$\psi\$, or under, 24\(\frac{1}{2}\) cents; over, 7 cents, and not above 11, 3cents \$\psi\$ b, and 10 \$\frac{1}{2}\) dents \$\psi\$ b. And 10 \$\frac{1}{2}\) dents \$\psi\$ b. Railway Bars, 14 cents \$\psi\$ b. Railway Bars, 10 part Steel, 1 cent \$\psi\$ b. Provided, that Metal cemented, cast or made from Iron by the Bessemer or pneumatic process, of whatever form or description, shall be classed as	
American Cast Steel.	
1003	
Machinery (round and square) 9c File. 9c Sheet 11 @ 16c	
gang and X cut	
Tool	
Best Cast. # b 156c Extra Cast. # b 106c Round Machinery, Cast. # b 10c	Sile.
Machinery	N. W.
German Steel, Best # b 17c  " 2d quality # b 10c  " 3d quality # b 9c	(
and the state of t	
ANTIMONY	
American         4 %c           blar         9c. dis 10 %           Pipe         5c. dis 10 %           Tin Lined Pipe         12c, dis 10 %           Sheet         0c, dis 10 %	y
3806 75g, dis 10 %	
N. P. U. BARBITT METAL.  **P 56 @ 7c  **A soc: B, i6c: C, 12c: D 10c \( \psi \) b.  **Electro-galvanised Plates, 2c \( \psi \) Manufactures of, not enumerated, 35 per cent. ad. val. Bars, Hiock of, not enumerated, 35 per cent. ad. val. Bars, Hiock and Pigs free. Banca, subject to duty of 10 per cent. Banca.  **Electro-galvanised Plates, 2c \( \psi \) Manufactures of, not enumerated, 35 per cent. ad. val. Bars, Hiock of Particles.  **Electro-galvanised Plates, 2c \( \psi \) Manufactures of P 5 20c.	L
b; Elecro-galvanized Plates, 2c v b; Manufactures of, not enumerated, 35 per cent. ad. val. Bars, Block and Pigs free. Banca, subject to duty of 10 per cent.	
English	-
I C 10X14   Prime Charcoal	
I X 10X14/ 1 X 10X14/ 1 X 102/ 1 X 104/ 1 X 104/ D C 104/ D X 104/ For each additional X add. 7.40 € 7.75 For each additional X add. 2.00	
DX 12/847 0 7.40 \$ 7.75 For each additional X add 2.00 COKE TIN PLATE Best 2d quality. Ordinary.	
Best. 2d quality. Ordinary.	
I C 10X14   C 12X12   C 12X12   C 12X12   C 12X12   C 12X12   C 14X20   Prime Char. 2d qual. Coke.  I C 14X20	
IC 200238	
I C 20X200	
American, cash	
ZINC.—DUTY: Pig or Block, 1.50 \$\P\$ 100 Bs. Sheet, 256 \$\P\$ B. Sheet, Cask	
Paper Stock, Old Metals, &c	4
Canvas linen.   (Dealer's Selling Price.)   G	
No. 2	
Seconds	,
Waste paper and scraps 54 Rope cuttings 134 6 3 Kentucky bale rope 4 44	
White collar cuttings, all paper 7 64	
maru white shavings, No.	
Soft No. 1. 356 6 White Shavings, No. 2. 34 \$\times\$ Mixed Shavings, part white 24 \$\times\$ Imperfections, No. 2, best folded sheets. 34 \$\times\$ Rook Stock No. 1. Heavy Stock 356 \$\times\$	
Book Stock No. 1. Heavy Stock 354 @ 354	
Newspaper Stock 194 9 194 Prints 194 9 2	
Pure Manilas	
Straw Board Cuttings 54 4 Woolen Tailor Clips 14 14 Satinst 2 234	
Yeliow Metal 13 Brass, light 9 heavy	-
Heavy Composition. 1914 0 Old Lead, solid. 9 114 Tea Lead. 9 115 Inc. 9 116 Inc. 9 Inc. 9 Inc. 9 Inc. 9 Inc. 9 116 Inc. 9	1
Copper, heavy	
No.   1   No.	
Paints, Oils, &c.	
Hack Lamp, Coach Painter © 2 act	١,
Ordinary	

Blue Chinese dry	Asph atumSundr	******			. 08
Ultramarine   18 a per					
Carmine, 40	Chalk.  Block. Dryer, Patent, Am'n. Frostings.				3/6
Freen, Chrome 15 @ 23C	Dryer, Patent, Am'n	l'ams.	cans, 1	olic; p	reg, 90
Paris	Glue, White.			33	6 4JU
" in oil " 300; " 450	Glue, White				306
" Red W B 24C	Gum, Copal				260
Brown # B 1160	" Damar				250
Ground in Oil Bright Red 27 % ske	snellac, English				300
" Red ₽ D 50	Litharge, Englisgh			9	e gola
Brown # 10 4160	Mineral Wool		₽	B 134 (	0 1 90
Purple	" powdered				2940
1   2   4   4   4   4   4   4   4   4   4	Gum, Copai.  "Damar. "Sheilac, English. "dark. Litharge Englisgh. Mineral Wool. Pumle Stone, selected Lump "powdered. "powdered. "uttle bulk				2340
English	" in bulk				
Venetian (N. C.) dry	Spirits Turpentine				. 300
Indian dry					750
Rose Pink10 @ 130	Glas	· 8			
Henna, American, Raw40	FRENCH WINDS	OW GL	SS.		
" in oil	Prices current pe	r box o	50 fee	t.	
Indian dry   0   120	Single Thick d	lacoun	· Kaler	£	
" in oil	Single Thick.—u	iscoun	E OUGE 4		
Raw316 @ 7160	SIZES.	znt.	2d.	3d. 1	4th
Raw   35 6 3 7 5 6 7 5	b x 8 to 10 x 15	8 7.50	£ 6.75	\$ 6.25 7.25	8 5.76
English6oc, gold	11 X 14 to 16 X 24	8.50	7-75	7.24	5.50
American Common 180	13 X 22 to 20 X 30	10.75	9-75	8.79	7 74
White Lead, American, pure dry	26 W 28 to 24 W 26	77.00	11.50	9-75	
White Paris English prime in oil	26 x 37 to 26 x 44	14.50	13.25	10.75	
fellow Ochre, French	30 X 52 to 30 X 54	15.00	14.00	11.25	
" in oilasst'd cans, rrc; kegs, 8c	30 X 56 to 34 X 56	17.25	15.50	13.50	
Tellow Chrome	26 x 37 to 36 x 44	18.25	17.25	15,00	
Valice, Paris, English, prime	30 2 00 00 40 2 00	200.75	YOU'S		
No. 1, in oil	Double Thick	Discour	it boder	5%	
" French (Paris)	SIZES.	ıst.	2d.	3d.	41 b.
" in oll 10% @ 11%e		_			
Linseed, Raw, in casks and bils. \$\psi\$ gal. 6cc & 52c	6 x 8 to 10 x 15	\$12,00			
" Boiled. " " " 650 & 670	18 X 22 to 20 X 30	13.75	15.75	11.75	
Bleached Whale? gal. 510	15 X 36 to 24 X 30	10-75	17.25	14-50	
" Elephant	26 x 26 to 24 x 36	31.00	18.50		
Signal	26 x 46 to 30 x 50	24.00	22.50		
	30 X 52 to 30 X 54	25.75	23.25		
	30 X 50 to 34 X 50	27.79	25,00	24.00	
Orilling450	26 X 36 to 26 X 44. 26 X 46 to 30 X 50. 30 X 52 to 30 X 54. 30 X 50 to 40 30 X 56. 34 X 56 to 34 X 56. 35 X 60 to 40 X 66.	38-25	30.00	27.75	
Simplifie Cylinder	Sizes above 40 x 60-\$10.00		x ext	ra for	every
1   1   2   2   2   2   2   2   2   2	five inches				
Neatsfoot	Glass more than 40 inches	wide.	All sig	rged f	or all
Tallow 58c Machinery 40e	An additional to per cent. Glass more than 40 inches vinches in length, and not ma inches, will be charged in the	king n	ore th	an 81 t	inited
Engine500	inches, will be charged in the	e 84 uni	ted inc	hes br	acket.
					-
		-	-		
A	3 4 5 6 6 5	83	-		
G. B. WALBI	RIDGE	Re.	C	0	

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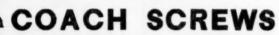
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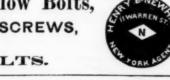
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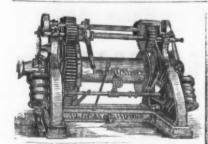
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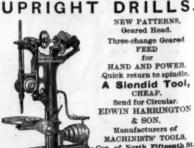
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(No. 235.)

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PHILADELPHIA, 1876.

The United States Centennial Commission has examined the report of the Judges, and accepted the following reasons, and decreed an award in conformity therewith.

PHILADELPHIA, May 4th, 1877.

### REPORT ON AWARDS.

Product, Files and Rasps.

Seal.

J. L. Campbell, Secretary.

Name and Address of Exhibitor, Nicholson File Company,--Providence, Rhode Island.

The undersigned, having examined the product herein described, respectfully recommends the same to the United States Centennial Commission for Award for the following reasons, viz:

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Daniel Steinmetz, of Pha.

APPROVAL OF GROUP JUDGES.

J. D. Imboden, G. L. Reed, J. Diefenbach, David McHardy,

of Richmond, Va. Chas. Staples, Jr., " Portland, Me.

" Clearfield, Pa. " Germany. " Great Britain.

A true Copy of the record.

Francis A. Walker, Chief of the Bureau of Awards.

Given by authority of the United States Centennial Commission.

A. T. Goshorn, Director General.

(21)

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Hyatt's Patent Slot Bolt.

Patented Jan. 29th, 1878. For Fastening Window Screens, Cabinet Ware, &c

We call the attention of the trade to these Wrought Brass and Iron Bolts as being the best and cheapest in the market. Sizes, two inches and upward, both plain and neck bolts. Two screws (as shown in the cut) fasten the bolt and bed-plate to the wood; no others are required, thus effecting a great saving in screws and producing a strong, handsome and cheap Bolt. Price list furnished on application.

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Window Ginss.

AA. | A.

87.50 8.50 7.75 10.75 12.35 10.75 13.00 11.50 11.50 11.35 11.35 11.35 11.35 11.35 11.35 11.35 11.35 11.35 11.35

Hutcher	December 19, 1878.	
Termin, 20 days.   Fore 60 or 20 days.   Interest added at 10   Interest wrights, \$ B. gold.   Interest wrights. \$ Control \$ 6.00 and \$ 1.00 a		
Apvile	Terms, 30 days. For 60 or 90 days, interest added at 10	7
Section   Personal State   Section   Personal State   P	Anvils.  Peter Wright's, W. B., gold	-
Section   Process   Proc	Residur No. 72. per doz \$ 5 00 net 1 14 16 (00 net 1 17 18 17 19 10 00 net 1 17 18 17 19 10 00 net 1 18 18 18 19 19 19 19 19 19 19 19 19 19 19 19 19	Me I
Watrons Stip August	Mann's Red Warrior	T
All other porting Balances  all its room Mrg Co. Light Hance Beels	Bates   Nut Augers	
Connection   Content   Connection   Content   Connection   Content   Connection   Content   Connection   Co	Light and "Common"	
Reving   Winchings	Chambers' No 1, for % boltt, each\$ 7:50)	**
Clark Shopard    Clark	## 5	x14
Clark Shopard    Clark	## 11s.—Eastern Carriage Bolts	1 2 2 3 3
Clark Shopard    Clark	American Ball	H
Clark Shopard    Clark	Mayer's Loose Joint. dis 70-20 Wrought Loose Fin. Table Hipers and Back Flaps. dis 40-20 X Rayer Agree Loose Joint dis 70-20 X dis 40-20 X Loose Joint	31
Dutcher*** — \$6 00 to 6 gold of Pilate. — \$6	Farker	36 13 13
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Tinned	Plate. dis 30x 10 2  Ooffice Mills.—Box and Side. dis 25 s Enterprise dis 20 s Outlery.—Walden Pocket. dis 30 @ 35 s Lander, Frary & Clark, J. Russell & Co., Lamson & Goodow Mfg. Co. and Meriden Cutlery Co., Manu facturers by cross net.	N N N
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Square Candle and Oll.  Tubular.  No. 0, \$1020; No. 1, 1250 F doz. net Gards. 50 cents extra per doz. n.t.  Gards. 50 cents extra per doz. n.t.  Fattacks.  Long and Short Cutter.  Fattacks.  Long and Short Cutter.  Statuters.  Long and Short Cutter.  Solution of the control o	Bouthern, all sizes.  Discount on Ausable and Clinton, 30 % Gloce, net.  Locks and Knabs.  Branford.  Gaylord Cabinet.	3
Square Candle and Oll.  Tubular.  No. 0, \$1020; No. 1, 1250 F doz. net Gards. 50 cents extra per doz. n.t.  Gards. 50 cents extra per doz. n.t.  Fattacks.  Long and Short Cutter.  Fattacks.  Long and Short Cutter.  Statuters.  Long and Short Cutter.  Solution of the control o	Scandinavian Pad Locks. Scandinavian Pad Locks.  \$ 40s \$540 550 650 750 650 10 90 12 50 } dia 50 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	94
Disatoh's Try Squares	Square Candle and Oll. No. 0, \$10:50; No. 1, 12:50 \$\pi\$ doz. \$2 75 @ 3 00 \text{Trabular.} No. 0, \$10:50; No. 1, 12:50 \$\pi\$ doz. net Gaards. \$0 \text{cents extra per doz. } n.t. \$250 \$\pi\$ doz. net Long and Short Cutter. \$\pi\$ doz. \$9 00 \text{ \$2 00 } \$0	
Disatoh's Try Squares	tanses (Jakes)  Interprise Mig. Co. s Measuring Faucets	4
Disatoh's Try Squares		90
Disatoh's Try Squares	Planes.—Sandusky	Daniel Daniel
Disatoh's Try Squares	Non-Adjustable	THE PERSON NAMED IN
Disatoh's Try Squares	## doz. #14*50 17*75 21*00 26*50 51*03 35*5  Lbs	0 10 1
Clipper No. 10. Bronze a Blade Boxed and Sharpened.  Clipper No. 5, Painted Red, Boxed and Sharpened.  Baws.—Disaton's Hand, Panel and Rip	Disaton's Try Squaresdls 45	8 1
Rowland	Clipper No. 10, Bronze Blade Boxed and Sharpened Painted Red Boxed 4 dos. \$8 50 ne	1
Fint Head Iron	Patent Tooth wit., 45c. ne Champion Tooth wit., 45c. ne Bhevels and Spades. Rowland dis 50a5 Oliver Ammes & Sons, new list dis 324 Not stamped "Ames " dis 324	tit ESE
Fint Head Iron	Sad   Fens. 4 to 10 lbs	C % 16 16 16 16 16 16 16 16 16 16 16 16 16
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Spoons.	1
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Philadelphia 5 tp., \$5:00; 8 ta., \$7:00 @ dos, dis 35 t	
Chatfield No. ', \$3:50; 2, \$4:00; 8, \$6:00 \$\pi\$ doz. ne Gem Coil No. 1, Large Jap'd \$\pi\$ doz \$3:50)	1
No. 2. Medium Jap'd "2'50 dis	1
No. 2, Medium Jap'd 2'50 dis	-1
Stocks and Dies dis 10&5	
Stove Pelish.—Gem gross, \$4:50, dis 5:	5
Onyx \$4.00 @ 4.25 ne	1
Tucks. Brads, &cNew List	6
Shoe Nails- 4-8 and larger, 9c; 314-8, 914c W B New list, ne	. 1
Double Pointed Tacksdia 404:5	š
Traps. Genuine Oneida—Newhousedis 30	.
Im. Oneida—Newhouse list (lst qual.)dis 60	5 I
Vises.—Solid Box, Trenton # B 111/6 12/4c ne Wrenches.—	3
Girard (Coe's Pattern)dis 50&10 %, case 50, 10&5	5
Agricultural— \$\pi\$ doz 10 iv \$3 60; 13 in., \$5 40 met; case dis 5;	
Coes' Genumedis 50\&10	8 1
" Pat. Wrot Bar	51
Taft's " Mail "	31
Phila. Tool Co., Duplexdis 25	5
Bright or Ann'd, No. 0 to 18dls 5716	s
No. 19 to 26	51
Coppered 0 to 18.	i I
Tinned Broom Wire	5
Wringers Novelly No. 10	1
Novelty No. 2	
No 2	
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PITTSI	BURGH.
Mercha	nt Iron.
Flat	Bar.
134 to 4x34 to 1 in1.800 434 to 6x34 to 1 in1.900 134 to 6x154 to 134 in2.200	134 and 134x34 to 34 in . 1.90c 1 and 134x34 to 34 in ac 56, 34 and 34x34 to 34 in . 2.20c
2% to 3% in2.30c 3% to 4 in2.80c % to % in1.90c	3-16 in
Horse Shoe Bar-all sizes	
Heavy Bands.	to 136x34 and 5-162.10c 34 to 36x34 and 5-162.30c 36 & 36x34 and 5-162.30c
Light Bands. 3 to 6x1/4 to 3-16 in2.10c 11/4 to 21/4 to 3-16 in2.30c Same sizes X No. 11 and	1 to 194x14 to 3-162.50c 34 and 74x14 to 3-16 in2.80c 54 and 14x14 to 3-16 in3.30c No. 12 2-10c. extra.
Hoop Iron. \$4 & 9-16, Nos. 13 to 16. 450c \$4 & 11-16, Nos. 13 to 16. 40 \$4 & 11-16, Nos. 13 to 16. 550c 1 & 156, Nos. 13 to 15. 510c 154 to 2, Nos. 13 to 15. 270c The prices under Hoop Ir Ties.	\$\\\^{6} \& \phi_{\colon} \cdot \colon \cdot \cd
1-100 % B extra for each	gauge lighter.
Oval	Iron.
	36 In 2.600
Half Ougl & Half Dound	14 in
Sheet Iron.	Com'n, Chare'l
No. 10 to 142.600 4.100	No. 22 to 243.300 4.800 No. 25 & 263.500 50

/m	Com in Charles
0	Com'n. Charc'l No. 22 to 24. 3.300 4.800
8	No. 10 to 142.500 4.100 No. 25 & 263.500 90
2	No. 15 to 17 2.800 4.300 No. 27 3.700 5.300
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1	All Sheets, No. 18 and lighter, over 30 in. wide, not
	less than 2-roc. extra.
	Wood's Patent Planished Sheet.
_	ıst quality (A)ıol@c   2d quality (B)ol@c
2	
%	Plate Iron-3-16 to 1/2 in. thick
_	Galvanized Iron-Juniata.
% 10	Nos. 14 to 20
N)	Nos. 14 to 20
_	Nos. 25 and 26
<b>4</b>	Common and imperfect Juniata, 45 to 50 % off. Dis
00	count, 30 to 40 %.
•	Roofing Iron, Corrugated or Crimped.
К	No. 20
	No arto at alchile " Non arto at
d	240. 21 to 24.778000; [ 1406. 21 to 24
kl	Bridge Iron.
	Carnegie Bros. & Co.'s list.
Bt	Beams and Channels.
89	Solid Wrought Iron Beams, 3 to 1016 in. x30 ft. @ n 3
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	15 in, by 25 ft 41 ald
8	Dock Bearing, 7 to a in. by so ft
	Channel Bars, 114 to 10 in. by 30 ft " 3
	Channel Bars, 12 to ro in. by 30 ft
et	Tee Iron.
8	r in.xr in. to 5 in.x3 in # 10 2.90
	Augle Free

I in. XI in. to 5 in. X3 in	D 2.0
Equal Sided, 1x1 to 13(x13)	Iron.
" 11 11 2X2 TO 4X4	41 m
Unequal Sided, 2x1% to 5x. Square Root Angles, 2x2 to	4
Square Root Angles, 2x2 to	336×336 " 2.6
Star Iron alerale to 484	3/9-3/9
Star Iron, 136x136 to 4x4 Sash Iron, 136x74x3-15 Miscellaneous Shapes. vari	44
Miscollansons Shapes veri	ous shaper 9 a con-
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Tobacco Hhd.	1.0.4
	6d and 7d
Clinch-All sizes	
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40 3.40	2d &
Finishing.	136 to 136 in 4
r in 7.50	2 in 4
134 " 6.90	236 " 4
136 " 4-75	
Casing and Box.	
10d to 30d 3.25	60
8d 3.50	
Fine Blued.	3d 5
4d 4.35	ad 6.
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	Each half keg to cents extra.  TERMS.—Note or acceptance at 60 days; or a discout of 2 per cent. for cash, if remitted within 10 days fro date of invoice. An abatement of 10 cents per k allowed upon orders of 200 kegs or over.
-	#teel.  Square, Flat and Octagon Tool Steel.  % to 2 in
	Single and Double Shear Natiers—Same as Tool. Knife, Tup, Die, Mill Pick, Drill—Ordinary sizes

Knife, Tup, Die, Mill Pick, 1	Drill-Ordinary sizes
Machinery 5	Meel_Round
% to 2 in	7-32 and 414 to sin It
5-16 and 21/2 to 3 in 81/20	3-16 and 434 to 6in 13
% and 3% to 4 in	5-32 In
Case Spring Steel.	156 to 3x5-32 to 3-16 in
1 to 4x34 to 38 in 0390	36 to 1%x5-32 to 3-16 ln
Agricultu	ral Steels.
Solid Cast Steel Plow, 4 to	16 by 3-16 to % in
"Iron Center Plow," 4 to 1	0x3-10 to 1/4 ln
"Iron Back Plow," 4 to 16x	3-10 to 36 in
Soft Steel Center Plow, 4 to Landside and Cultivator, 6	0 10x3-10 to % in
Circular Flow Coulters, 5-2	a to la in thick
Reaper and Scythe	be one off the cuttoff
Fork and Hoe	
morse make reem, tol engi	Harrana area area area area area area are
Finger Bar	
Cutter Bars, C. B	
German Sprin	g Steel
Cornstalk Cutter beveled	to length

1	Cornstalk Cutter beveled to length
ı	Planters' Hoe, C. S
ı	Hoe, U. S
ı	Sheet Steels.
1	German, 10 to 16 g 8c   Common C'st, 17 to 20 g . 10
ı	" 17 to 20 g IIE Best Cast, 10 to 16 g I
1	Common C'st, 10 to 16 g. 90 " " 17 to 20 g1
į	Rolls and Castings.
	Furnace, Floor and Straightening Plates 134 @
į	Housings and Castings not otherwise specified 25
	Guide Plates3
1	Spindles and coupling boxes
	Sand Rolls and Pinions, large size
ļ	" small size3
	Pipe Mill Castings
	Rolling Mill Castings under 50 lbs
	Spur and Bevel Wheels, large 3 @ 3
	Pulleys up to so inches

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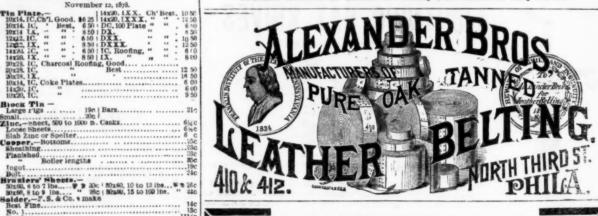
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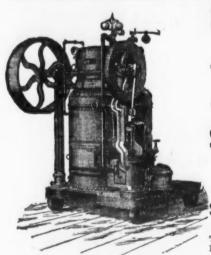
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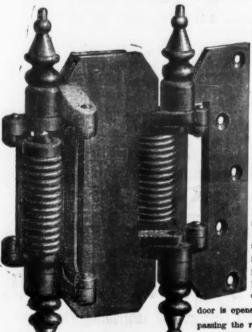
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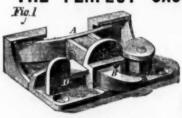
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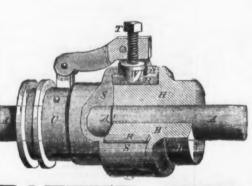
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The working surface is in one piece of Jessur's Best Tool. Cast Steel, which being accurately ground, is hardened and given the proper temper for the heaviest work. The horn is covered with and its extremity made suiterly of steel. The body of the Anvil is of the strongest grade of American tron, to which the cast-steel face is wearranted to be thoroughly welded and not to come off.

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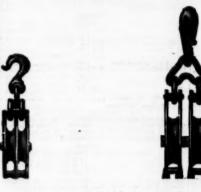
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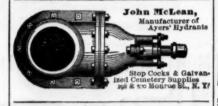
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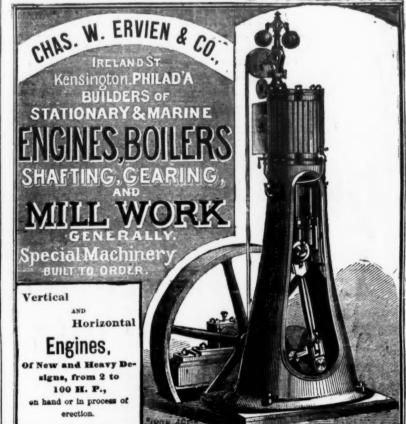
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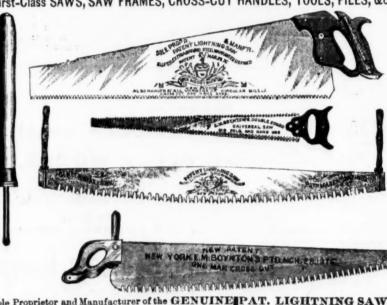
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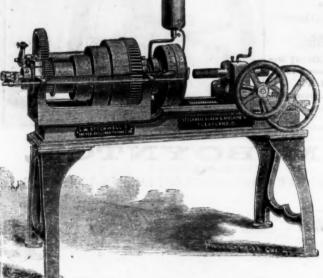
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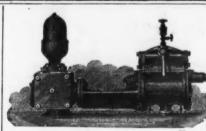
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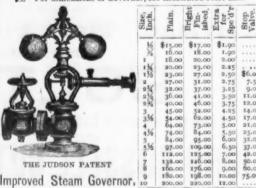
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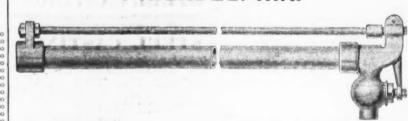
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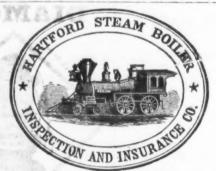


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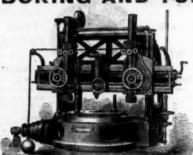
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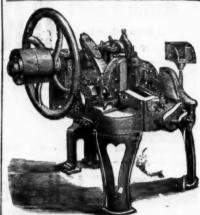




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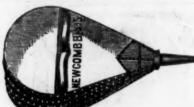
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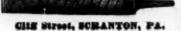
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